TrainVagas

0.1

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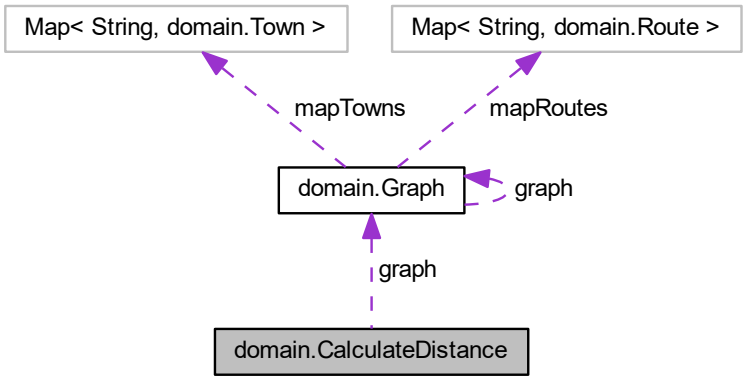
Chapter 6

Class Documentation

6.1 domain.CalculateDistance Class Reference

Collaboration diagram for domain.CalculateDistance:



Public Member Functions

- Route [ ] calculateAll ()

Static Public Member Functions

- static Route [ ] calculate (String[ ] trips)

Static Package Attributes

- static Graph graph = Graph.create()

6.1.1 Member Function Documentation

6.1.1.1 calculate()

```
static Route [] domain.CalculateDistance.calculate (
            String [] trips )  [static]
```

Calcula a distancia de uma lista de rotas(viagens)

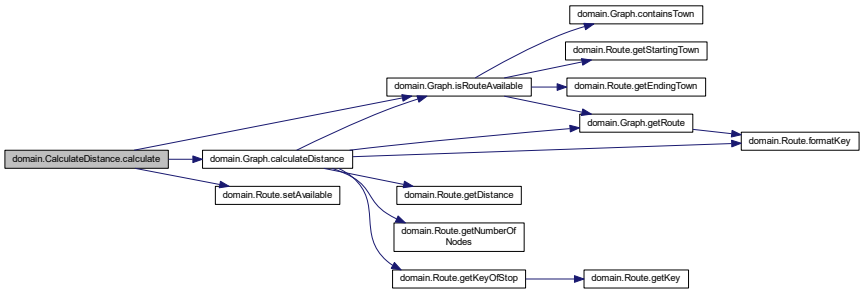
Parameters

trips	lista de key das rotas(viagens) para o calculo da distancia

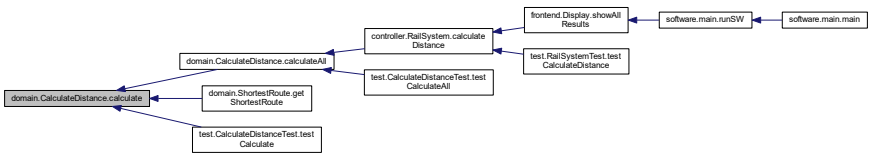
Returns

Rotas com suas respectivas distancias calculadas

Here is the call graph for this function:



Here is the caller graph for this function:



6.1.1.2 calculateAll()

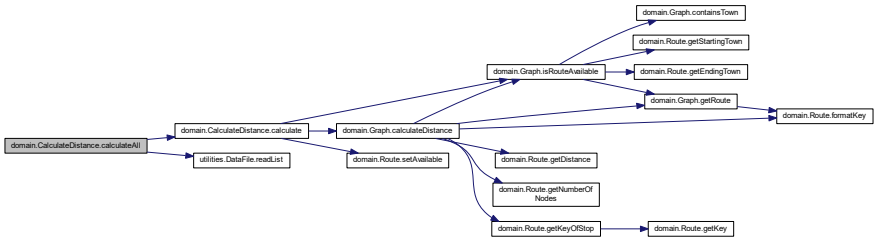
```
Route [] domain.CalculateDistance.calculateAll ( )
```

Baseada na lista de rotas contida no arquivo 'input.txt', na proprieda 'distance.routes', calcula a distancia de cada uma. Rotas nao possiveis serao setada como nao existente atraves da chamada do metodo setAvailabe(false) e o valor da distancia sera 0.0

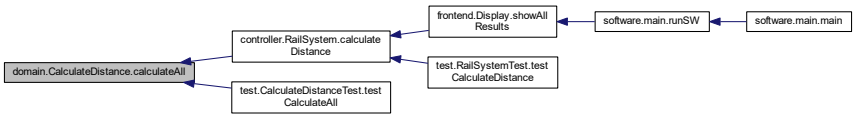
Returns

Retorna uma lista de rotas com sua respectiva distancia calculada e com a indicacao se e uma rota possivel

Here is the call graph for this function:



Here is the caller graph for this function:



6.1.2 Member Data Documentation

6.1.2.1 graph

```
Graph domain.CalculateDistance.graph = Graph.create()  [static], [package]
```

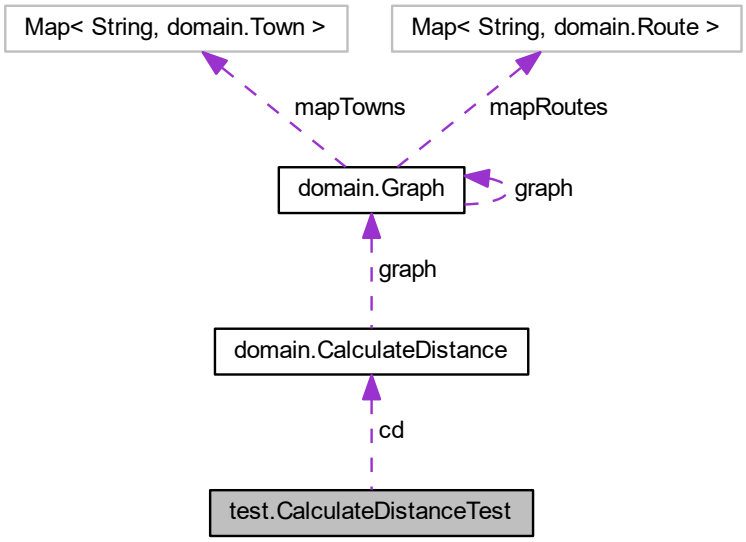
Rotas disponiveis no sistema

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/domain/CalculateDistance.java

6.2 test.CalculateDistanceTest Class Reference

Collaboration diagram for test.CalculateDistanceTest:



Public Member Functions

- void setUp () throws Exception
- void testCalculateAll ()
- void testCalculate ()

Package Attributes

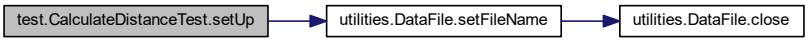
- CalculateDistance cd

6.2.1 Member Function Documentation

6.2.1.1 setUp()

```
void test.CalculateDistanceTest.setUp ( ) throws Exception
```

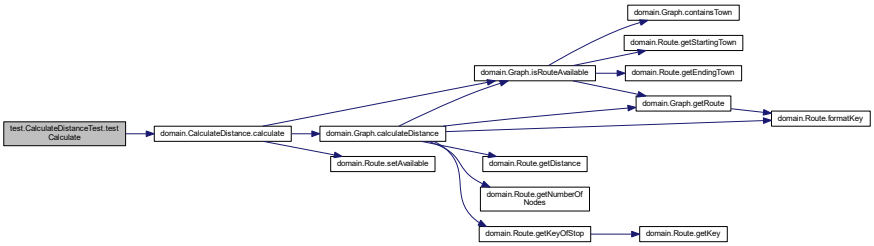
Here is the call graph for this function:



6.2.1.2 testCalculate()

```
void test.CalculateDistanceTest.testCalculate ( )
```

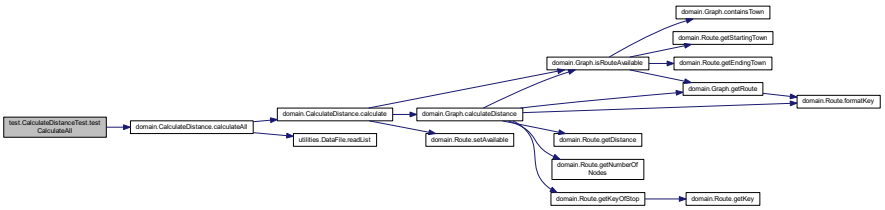
Here is the call graph for this function:



6.2.1.3 testCalculateAll()

```
void test.CalculateDistanceTest.testCalculateAll ( )
```

Here is the call graph for this function:



6.2.2 Member Data Documentation

6.2.2.1 cd

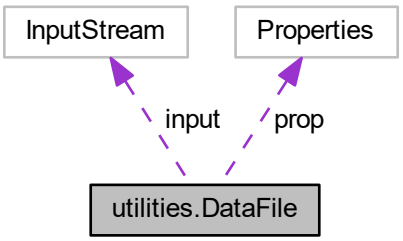
```
CalculateDistance test.CalculateDistanceTest.cd  [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/CalculateDistanceTest.java

6.3 utilities.DataFile Class Reference

Collaboration diagram for utilities.DataFile:



Static Public Member Functions

- static void setFileName (String file)
- static String getFileName ()
- static boolean open ()
- static void close ()
- static String [ ] readList (FileProperty property)
- static String [ ] readList (FileProperty property, int index_filter)
- static String readCondition (FileProperty property, int index_filter)
- static double readDouble (FileProperty property, int index_filter)
- static int readInteger (FileProperty property, int index_filter)
- static String readLiteralOperand (FileProperty property, int index_filter)
- static boolean checkFileExist ()

Static Public Attributes

- static final int DISTANCE_CONDITION =3
- static final int STOP1_CONDITION =1
- static final int STOP2_CONDITION =2
- static final String PATH_FILE = "input.txt"
- static final String FILE_TESTS_CASES = "FILE_TEST_CASE.txt"

Static Package Attributes

- static Properties prop = new Properties()
- static InputStream input = null

Static Private Attributes

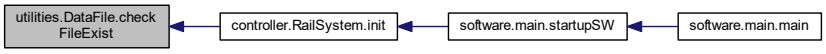
- static final String PATTERN_LIST ="[^a-zA-Z0-9.,]"
- static final String PATTERN_OPERAND ="[^a-zA-Z,]"
- static final String PATTERN_DOUBLE ="[^0-9.,]"
- static final String PATTERN_INTEGER ="[^0-9]"
- static final String PATTERN_CONDITION ="[^<>=!]"
- static final String SEPARATOR ","
- static String file_name = PATH_FILE

6.3.1 Member Function Documentation

6.3.1.1 checkFileExist()

```
static boolean utilities.DataFile.checkFileExist ( )  [static]
```

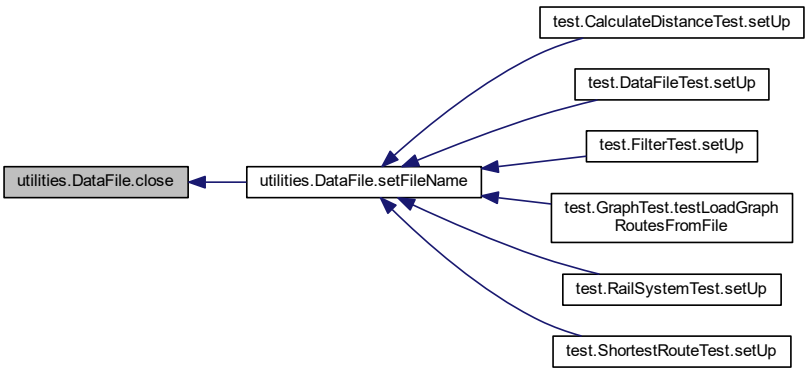
Here is the caller graph for this function:



6.3.1.2 close()

```
static void utilities.DataFile.close ( )  [static]
```

Fecha o arquivo de entrada Here is the caller graph for this function:



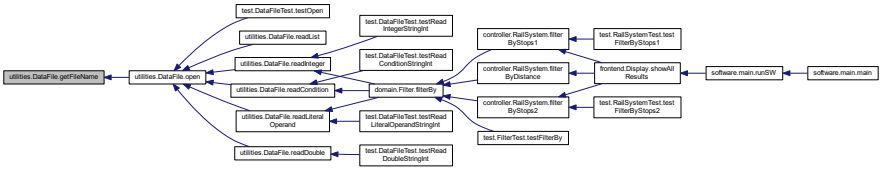
6.3.1.3 getFileName()

```
static String utilities.DataFile.getFileName ( )  [static]
```

Returns

Retorna nome do arquivo em uso

Here is the caller graph for this function:



6.3.1.4 open()

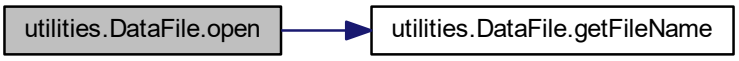
```
static boolean utilities.DataFile.open ( )  [static]
```

Abre o arquivo de entrada

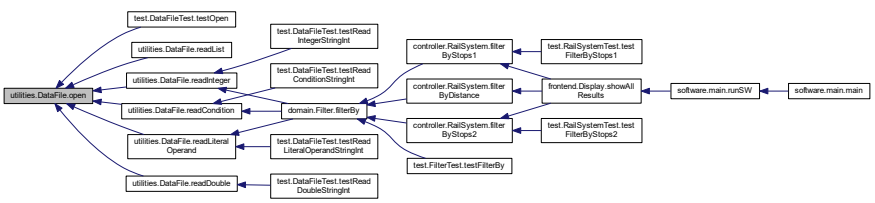
Returns

Se o arquivo foi aberto com sucesso retorna true

Here is the call graph for this function:



Here is the caller graph for this function:



6.3.1.5 readCondition()

```
static String utilities.DataFile.readCondition (
            FileProperty property,
            int index_filter )  [static]
```

Le uma condicao do arquivo de entrada

Parameters

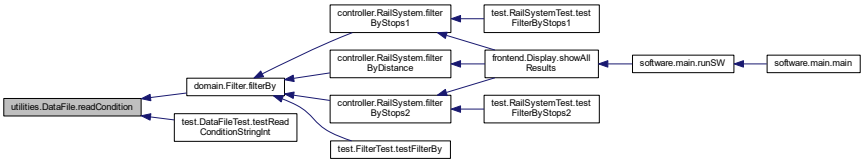
property	propriedade onde a condicao sera buscado
index_filter	index da propriedade a ser buscada ex: propriedade[index].condition

Returns

retorna a condicao literal lido do arquivo

Here is the call graph for this function:

Here is the caller graph for this function:



6.3.1.6 readDouble()

```
static double utilities.DataFile.readDouble (
            FileProperty property,
            int index_filter )  [static]
```

Le um double do arquivo de entrada

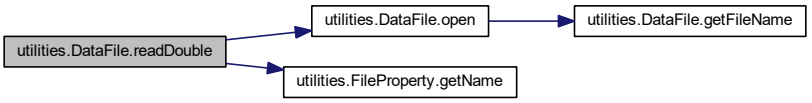
Parameters

property	propriedade onde o double sera buscado
index_filter	index identifica qual propriedade dentro do array que existe no arquivo

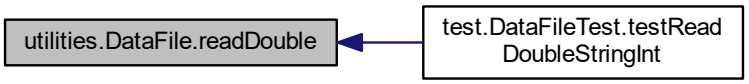
Returns

retorna o double lido do arquivo

Here is the call graph for this function:



Here is the caller graph for this function:



6.3.1.7 readInteger()

```
static int utilities.DataFile.readInteger (
            FileProperty property,
            int index_filter )  [static]
```

Le um interiro do arquivo de entrada

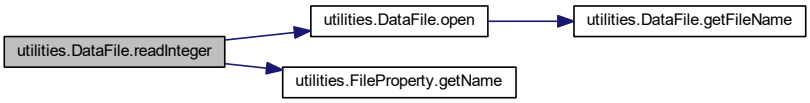
Parameters

property	propriedade onde o inteiro sera buscado
index_filter	index identifica qual propriedade dentro do array que existe no arquivo

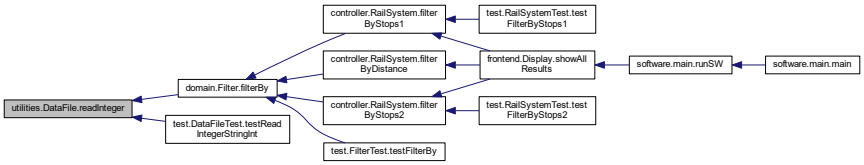
Returns

retorna o inteiro lido do arquivo

Here is the call graph for this function:



Here is the caller graph for this function:



6.3.1.8 readList() [1/2]

```
static String [] utilities.DataFile.readList (
            FileProperty property )  [static]
```

Le uma lista de string do arquivo de entrada

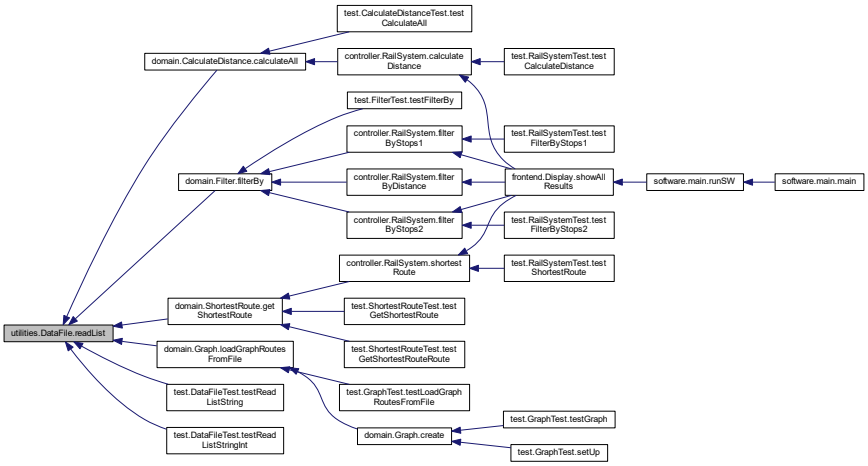
Parameters

property	identificador da propriedade a ser lida

Returns

retorna o array de string lido do arquivo

Here is the caller graph for this function:



6.3.1.9 readList() [2/2]

```
static String [] utilities.DataFile.readList (
            FileProperty property,
            int index_filter )  [static]
```

Le um array de string do arquivo de entrada

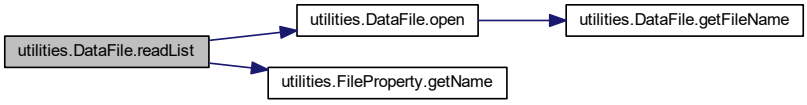
Parameters

property	propriedade onde o array de string sera buscado
index_filter	index da propriedade a ser buscada ex: propriedade[index].condition

Returns

retorna o array de string lido do arquivo

Here is the call graph for this function:



6.3.1.10 readLiteralOperand()

```
static String utilities.DataFile.readLiteralOperand (
            FileProperty property,
            int index_filter )  [static]
```

Le um operando na forma literal do arquivo de entrada

Parameters

property	propriedade a ser lida

Returns

retorna o operando, na forma literal, lido do arquivo

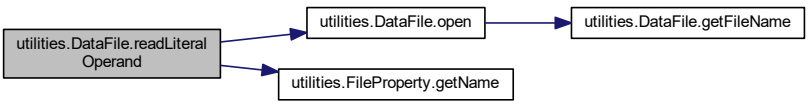
Parameters

index_filter	index identifica qual propriedade dentro do array que existe no arquivo

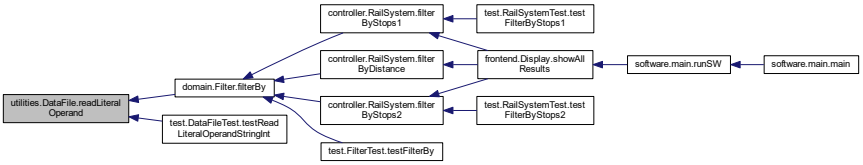
Returns

retorna o operando, na forma literal, lido do arquivo

Here is the call graph for this function:



Here is the caller graph for this function:



6.3.1.11 setFileName()

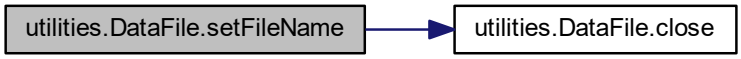
```
static void utilities.DataFile.setFileName (
            String file )  [static]
```

Configura o nome do arquivo

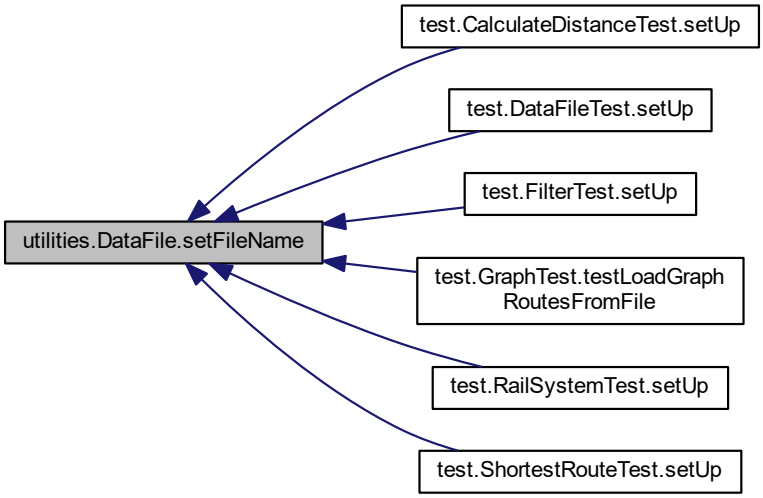
Parameters

file	path + nome do arquivo a ser utilizado para entrada dos valores

Here is the call graph for this function:



Here is the caller graph for this function:



6.3.2 Member Data Documentation

6.3.2.1 DISTANCE_CONDITION

```
final int utilities.DataFile.DISTANCE_CONDITION =3  [static]
```

6.3.2.2 file_name

```
String utilities.DataFile.file_name = PATH_FILE  [static], [private]
```

6.3.2.3 FILE_TESTS_CASES

```
final String utilities.DataFile.FILE_TESTS_CASES = "FILE_TEST_CASE.txt"  [static]
```

6.3.2.4 input

```
InputStream utilities.DataFile.input = null  [static], [package]
```

6.3.2.5 PATH_FILE

```
final String utilities.DataFile.PATH_FILE = "input.txt"  [static]
```

Nome do Arquivo de entrada

6.3.2.6 PATTERN_CONDITION

```
final String utilities.DataFile.PATTERN_CONDITION ="[^<>=!]"  [static], [private]
```

6.3.2.7 PATTERN_DOUBLE

```
final String utilities.DataFile.PATTERN_DOUBLE ="[^0-9.,]"  [static], [private]
```

6.3.2.8 PATTERN_INTEGER

```
final String utilities.DataFile.PATTERN_INTEGER ="[^0-9]"  [static], [private]
```

6.3.2.9 PATTERN_LIST

```
final String utilities.DataFile.PATTERN_LIST ="[^a-zA-Z0-9.,]"  [static], [private]
```

6.3.2.10 PATTERN_OPERAND

```
final String utilities.DataFile.PATTERN_OPERAND ="[^a-zA-Z,]"  [static], [private]
```

6.3.2.11 prop

```
Properties utilities.DataFile.prop = new Properties()  [static], [package]
```

6.3.2.12 SEPARATOR

```
final String utilities.DataFile.SEPARATOR ","  [static], [private]
```

6.3.2.13 STOP1_CONDITION

```
final int utilities.DataFile.STOP1_CONDITION =1  [static]
```

6.3.2.14 STOP2_CONDITION

```
final int utilities.DataFile.STOP2_CONDITION =2  [static]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/utilities/DataFile.java

6.4 test.DataFileTest Class Reference

Public Member Functions

- void setUp () throws Exception
- void testOpen ()
- void testReadListString ()
- void testReadListStringInt ()
- void testReadConditionStringInt ()
- void testReadDoubleStringInt ()
- void testReadIntegerStringInt ()
- void testReadLiteralOperandStringInt ()

6.4.1 Member Function Documentation

6.4.1.1 setUp()

```
void test.DataFileTest.setUp ( ) throws Exception
```

Here is the call graph for this function:

6.4.1.2 testOpen()

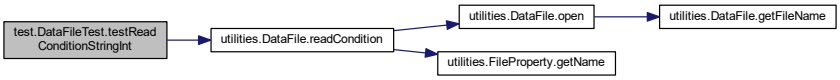
```
void test.DataFileTest.testOpen ( )
```

Here is the call graph for this function:

6.4.1.3 testReadConditionStringInt()

```
void test.DataFileTest.testReadConditionStringInt ( )
```

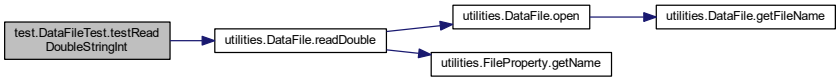
Here is the call graph for this function:



6.4.1.4 testReadDoubleStringInt()

```
void test.DataFileTest.testReadDoubleStringInt ( )
```

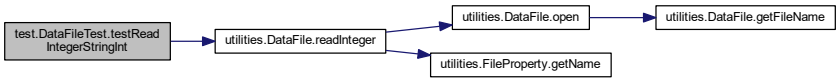
Here is the call graph for this function:



6.4.1.5 testReadIntegerStringInt()

```
void test.DataFileTest.testReadIntegerStringInt ( )
```

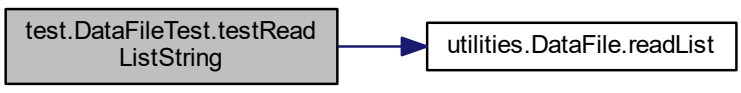
Here is the call graph for this function:



6.4.1.6 testReadListString()

```
void test.DataFileTest.testReadListString ( )
```

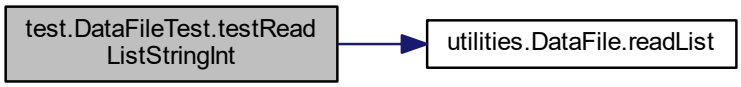
Here is the call graph for this function:



6.4.1.7 testReadListStringInt()

```
void test.DataFileTest.testReadListStringInt ( )
```

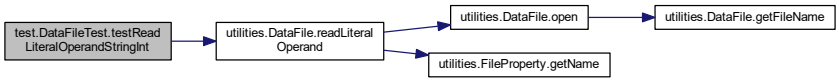
Here is the call graph for this function:



6.4.1.8 testReadLiteralOperandStringInt()

```
void test.DataFileTest.testReadLiteralOperandStringInt ( )
```

Here is the call graph for this function:



The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/DataFileTest.java

6.5 frontend.Display Class Reference

Static Public Member Functions

- static void showAllResults ()

Static Package Attributes

- static int index_line = 1
- static final String FORMAT_DOUBLE = "%.0f"
- static final String FORMAT_DECIMAL = "%d"
- static final String FORMAT_ROUTE = "[%s] "
- static final String FORMAT_STRING = "%-20s"
- static final String FORMAT_COL1 = "%-7s"
- static final String SEPARATOR = " | "
- static final String NEW_LINE = "\n"

Static Private Member Functions

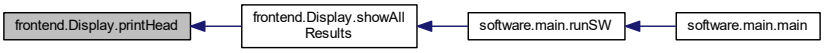
- static void printHead ()
- static void printResultShortest (Map< String, Route[ ]> shortest)
- static void printResultCalculateDistance (Route[ ] routes)
- static void printResultFilter (Route[ ] routes)
- static void printLine (String line)

6.5.1 Member Function Documentation

6.5.1.1 printHead()

```
static void frontend.Display.printHead ( )  [static], [private]
```

Imprime cabecalho Here is the caller graph for this function:



6.5.1.2 printLine()

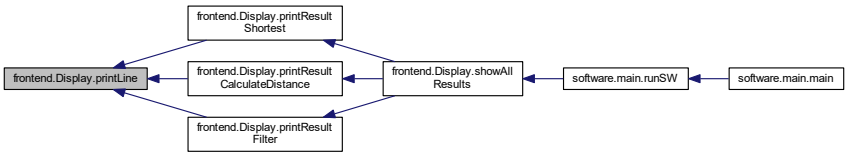
```
static void frontend.Display.printLine (
            String line )  [static], [private]
```

Imprime a linha na tela adicionando o numero da linha

Parameters

line	Formatada e tabulada

Here is the caller graph for this function:



6.5.1.3 printResultCalculateDistance()

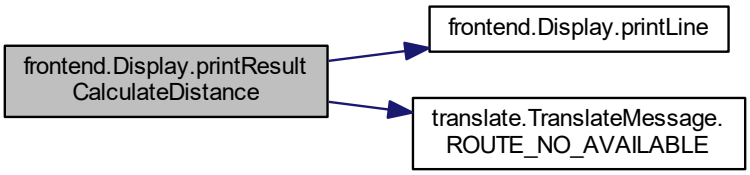
```
static void frontend.Display.printResultCalculateDistance (
            Route [] routes )  [static], [private]
```

Imprime resultado dos calculos de distancias das rotas

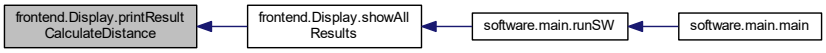
Parameters

routes	Lista das rotas e seus respectivo valores de distancia

Here is the call graph for this function:



Here is the caller graph for this function:



6.5.1.4 printResultFilter()

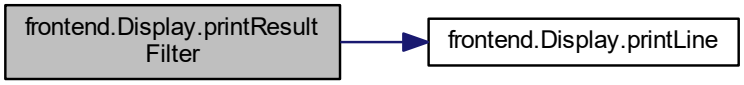
```
static void frontend.Display.printResultFilter (
            Route [] routes )  [static], [private]
```

Imprime resultados dos filtros

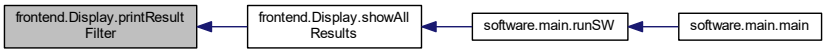
Parameters

routes	

Here is the call graph for this function:



Here is the caller graph for this function:



6.5.1.5 printResultShortest()

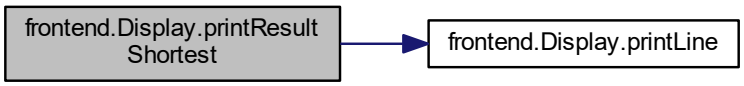
```
static void frontend.Display.printResultShortest (
            Map< String, Route[]> shortest )  [static], [private]
```

Imprime resulatado relacionado da consulta de menores rotas

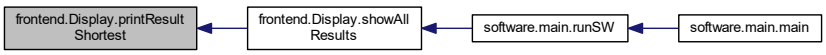
Parameters

shortesd	Lista das menores rotas

Here is the call graph for this function:



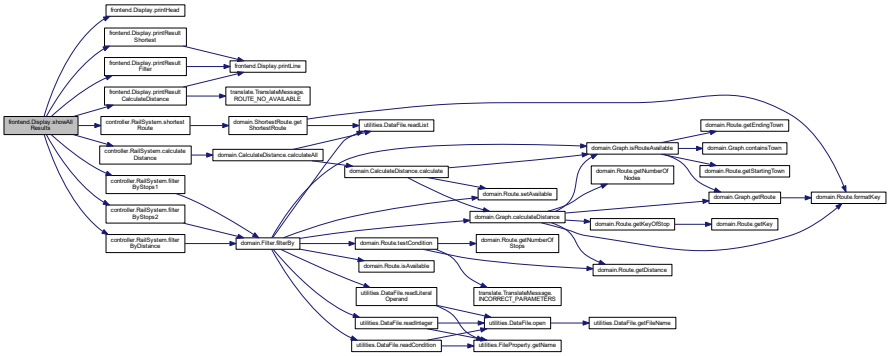
Here is the caller graph for this function:



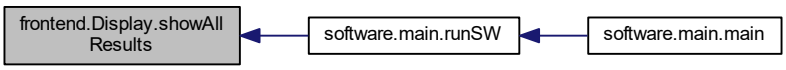
6.5.1.6 showAllResults()

```
static void frontend.Display.showAllResults ( )  [static]
```

Mostra todos os resultados. Here is the call graph for this function:



Here is the caller graph for this function:



6.5.2 Member Data Documentation

6.5.2.1 FORMAT_COL1

```
final String frontend.Display.FORMAT_COL1 = "%-7s"  [static], [package]
```

6.5.2.2 FORMAT_DECIMAL

```
final String frontend.Display.FORMAT_DECIMAL = "%d"  [static], [package]
```

6.5.2.3 FORMAT_DOUBLE

```
final String frontend.Display.FORMAT_DOUBLE = "%.0f"  [static], [package]
```

6.5.2.4 FORMAT_ROUTE

```
final String frontend.Display.FORMAT_ROUTE = "[%s] "  [static], [package]
```

6.5.2.5 FORMAT_STRING

```
final String frontend.Display.FORMAT_STRING = "%-20s"  [static], [package]
```

6.5.2.6 index_line

```
int frontend.Display.index_line = 1  [static], [package]
```

6.5.2.7 NEW_LINE

```
final String frontend.Display.NEW_LINE = "\n"  [static], [package]
```

6.5.2.8 SEPARATOR

```
final String frontend.Display.SEPARATOR = " | "  [static], [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/frontend/Display.java

6.6 utilities.FileProperty Enum Reference

Public Member Functions

- FileProperty (String name)
- String getName ()

Public Attributes

- GRAPH_ROUTES =("graph.routes")
- DISTANCE_ROUTES =("distance.routes")
- FILTER_CONDITION =("filtertrips[%d].condition")
- FILTER_ROUTES =("filtertrips[%d].routes")
- SHORTEST_ROUTES =("shortestRouter.trip")

Private Attributes

- String name

6.6.1 Constructor & Destructor Documentation

6.6.1.1 FileProperty()

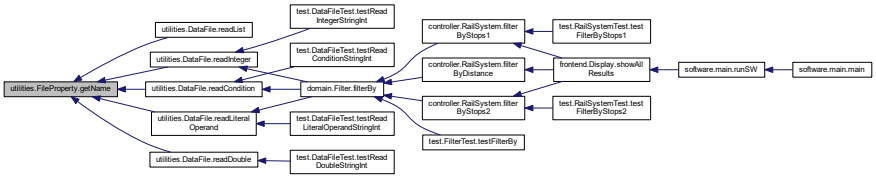
```
utilities.FileProperty.FileProperty (
            String name )
```

6.6.2 Member Function Documentation

6.6.2.1 getName()

```
String utilities.FileProperty.getName ( )
```

Here is the caller graph for this function:



6.6.3 Member Data Documentation

6.6.3.1 DISTANCE_ROUTES

```
utilities.FileProperty.DISTANCE_ROUTES =("distance.routes")
```

Questoes: 1) The distance of the route A-B-C. 2) The distance of the route A-D. 3) The distance of the route A-D-C. 4) The distance of the route A-E-B-C-D. 5) The distance of the route A-E-D.

Mapeamento das rotas para calculo da distancia O hifem e opcional Separador virgula Possibilidade de adiconar novas rotas

6.6.3.2 FILTER_CONDITION

```
utilities.FileProperty.FILTER_CONDITION =("filtertrips[%d].condition")
```

Questoes: 6) The number of trips starting at C and ending at C with a maximum of 3 stops. In the sample data below, there are two such trips: C-D-C (2 stops). and C-E-B-C (3 stops). 7) The number of trips starting at A and ending at C with exactly 4 stops. In the sample data below, there are three such trips: A to C (via B,C,D); A to C (via D,C,D); and A to C (via D,E,B). 10)The number of different routes from C to C with a distance of less than 30. In the sample data, the trips are: CDC, CEBC, CEBCDC, CDCEBC, CDEBC, CEBCEBC, CEBCEBCEBC.

Verifica se as rotas indicadas na propriedade filtertrips[X].routes satifazem a condicao indicada em filtertrips[X].condition. Condicoes permitidas: <,>,<=,>=,==,!=. Operandos permitidos STOPS,DISTANCE. O hifem e opcional. Rotas invalidas serao desconsideradas. Importante: Separador por virgula. Possibilidade de adiconar novos filtros,diferenciar atraves do index [X].

6.6.3.3 FILTER_ROUTES

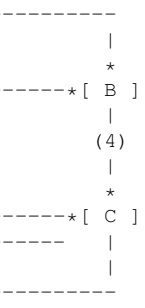
```
utilities.FileProperty.FILTER_ROUTES =("filtertrips[%d].routes")
```

6.6.3.4 GRAPH_ROUTES

```
utilities.FileProperty.GRAPH_ROUTES =("graph.routes")
```

Mapa de estacoes

Diagrama esta baseado na descricao do teste. '*' Indica rotas de chegada na estacao (D) Indica a distancia



Mapeamento de todas as rotas disponiveis O SW esta trabalhando dinamicamente, podendo ser adicionadas novas rotas Para numeros decimais usar '.' Separador por virgula

6.6.3.5 name

```
String utilities.FileProperty.name  [private]
```

6.6.3.6 SHORTEST_ROUTES

```
utilities.FileProperty.SHORTEST_ROUTES =("shortestRouter.trip")
```

Questoes: 8) The length of the shortest route (in terms of distance to travel) from A to C. 9) The length of the shortest route (in terms of distance to travel) from B to B.

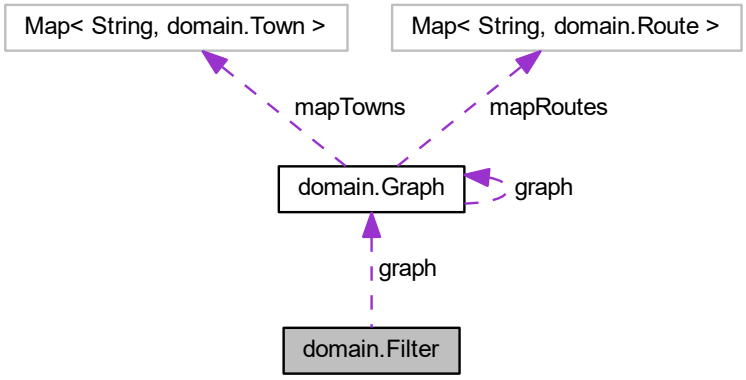
Encontra as opcoes de rotas menores(distancia) entre o ponto de partida e o de chegada Possibilidade de adiconar quantas viagens(rotas) necessarias. Rotas invalidas serao desconsideradas O hifem e opcional Separador virgula

The documentation for this enum was generated from the following file:

- D:/workspace/TrainVagas/src/utilities/FileProperty.java

6.7 domain.Filter Class Reference

Collaboration diagram for domain.Filter:



Public Member Functions

- Route [ ] filterBy (int index_filter)

Package Attributes

- Graph graph = Graph.create()

6.7.1 Member Function Documentation

6.7.1.1 filterBy()

```
Route [] domain.Filter.filterBy (
            int index_filter )
```

Verifica se as rotas indicadas no arquivo 'input.txt' na propriedade 'filtertrips[X].routes' satifazem a condicao indicada em 'filtertrips[X].condition'. Condicoes permitidas: '<','>','<=','>=','==','!=' Operandos permitidos STOPS,DISTANCE Rotas invalidas serao desconsideradas

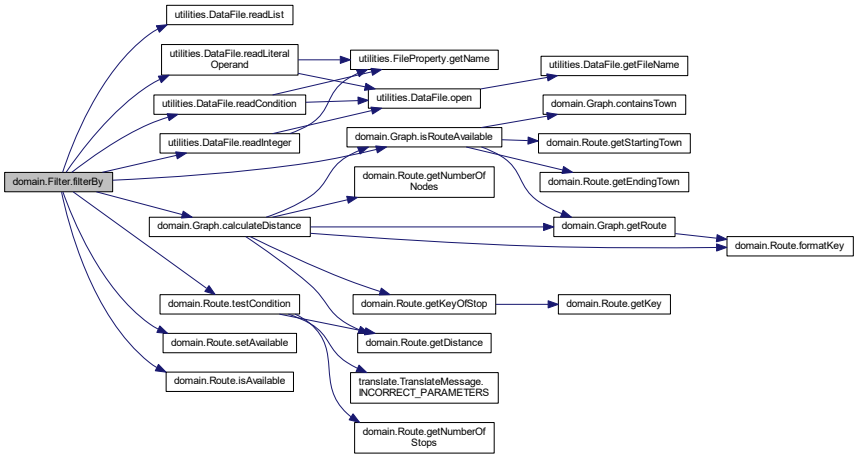
Parameters

num_test	indice do filtro

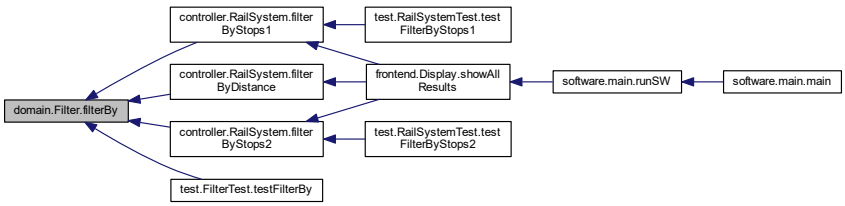
Returns

Rotas filtradas pela condincao

Here is the call graph for this function:



Here is the caller graph for this function:



6.7.2 Member Data Documentation

6.7.2.1 graph

```
Graph domain.Filter.graph = Graph.create()  [package]
```

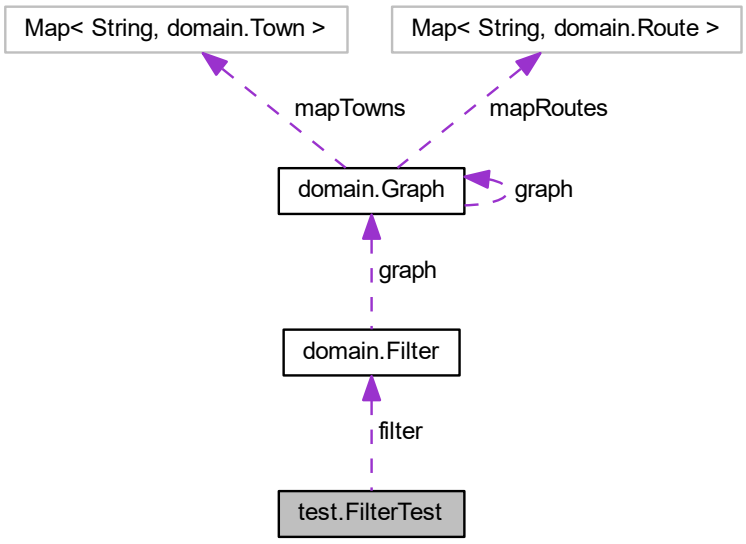
Rotas disponiveis no sistema

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/domain/Filter.java

6.8 test.FilterTest Class Reference

Collaboration diagram for test.FilterTest:



Public Member Functions

- void setUp () throws Exception
- void testFilterBy ()

Package Attributes

- Filter filter

6.8.1 Member Function Documentation

6.8.1.1 setUp()

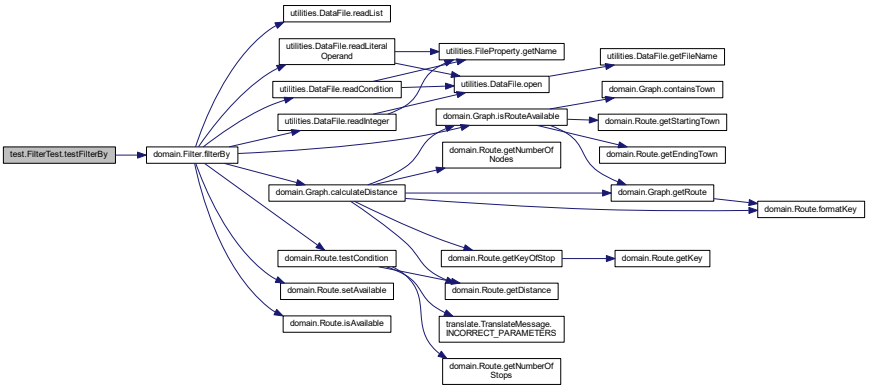
```
void test.FilterTest.setUp ( ) throws Exception
```

Here is the call graph for this function:

6.8.1.2 testFilterBy()

```
void test.FilterTest.testFilterBy ( )
```

Here is the call graph for this function:



6.8.2 Member Data Documentation

6.8.2.1 filter

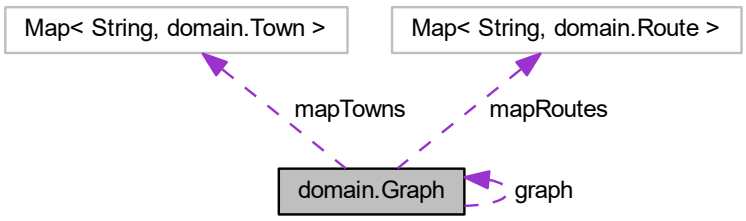
```
Filter test.FilterTest.filter  [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/FilterTest.java

6.9 domain.Graph Class Reference

Collaboration diagram for domain.Graph:



Public Member Functions

- void clear ()
- String [ ] getAllTowns ()
- String [ ] getAllRoutes ()
- String [ ] getAllRoutePossible (Route trip)
- String [ ] getConnections (String key_town)
- void addRoute (String key_route)
- void addRoute (String[ ]routes)
- void addTown (String key_town)
- Route getRoute (String key_route)
- void loadGraphRoutesFromFile ()
- boolean containsTown (String key_town)
- boolean isRouteAvailable (String route)
- double calculateDistance (String trip)

Static Public Member Functions

- static synchronized Graph create ()

Static Package Attributes

- static Graph graph = null

Private Member Functions

- Graph ()

Private Attributes

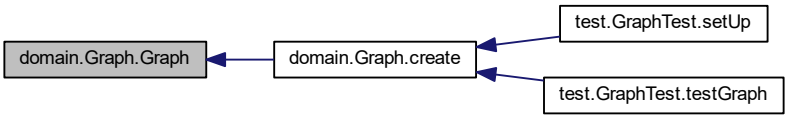
- Map< String, Route > mapRoutes = null
- Map< String, Town > mapTowns = null

6.9.1 Constructor & Destructor Documentation

6.9.1.1 Graph()

```
domain.Graph.Graph ( )  [private]
```

Construtor privado. Para instanciar o objeto sera utilizado o metodo create() Here is the caller graph for this function:



6.9.2 Member Function Documentation

6.9.2.1 addRoute() [1/2]

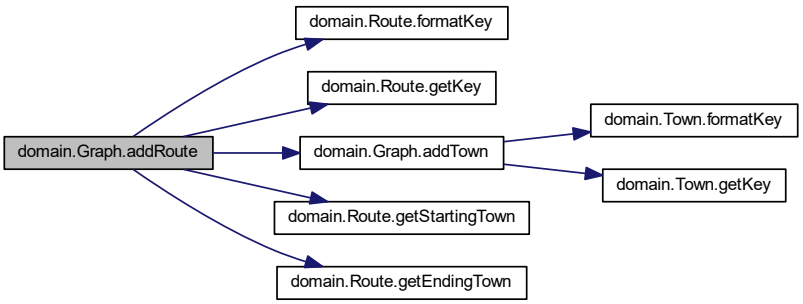
```
void domain.Graph.addRoute (
            String key_route )
```

Cria e armazena no containner uma rota com o key indicado por key_route

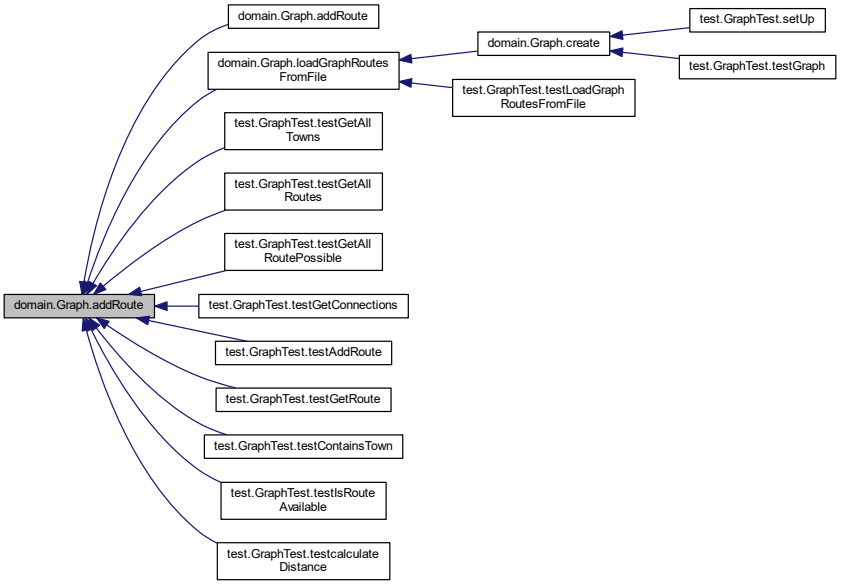
Parameters

key	Chave utilizada no map

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.2.2 addRoute() [2/2]

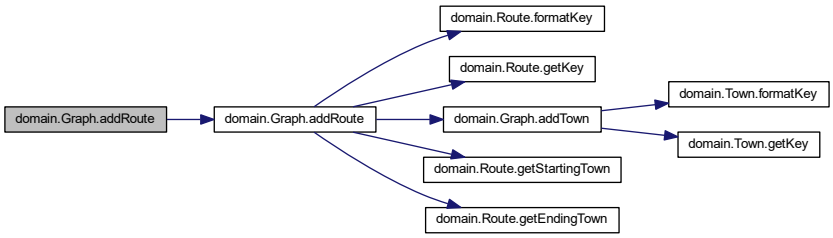
```
void domain.Graph.addRoute (
            String [] routes )
```

Cria e armazena no containner uma lista de rotas

Parameters

routes	Lista dos keys para criacao das rotas

Here is the call graph for this function:



6.9.2.3 addTown()

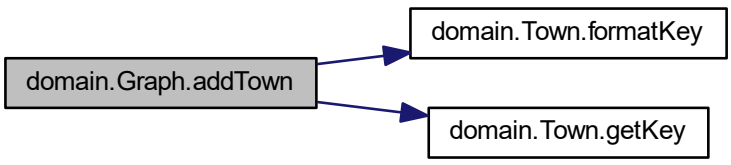
```
void domain.Graph.addTown (
            String key_town )
```

Cria e armazena no containner uma cidade identificada por key_town

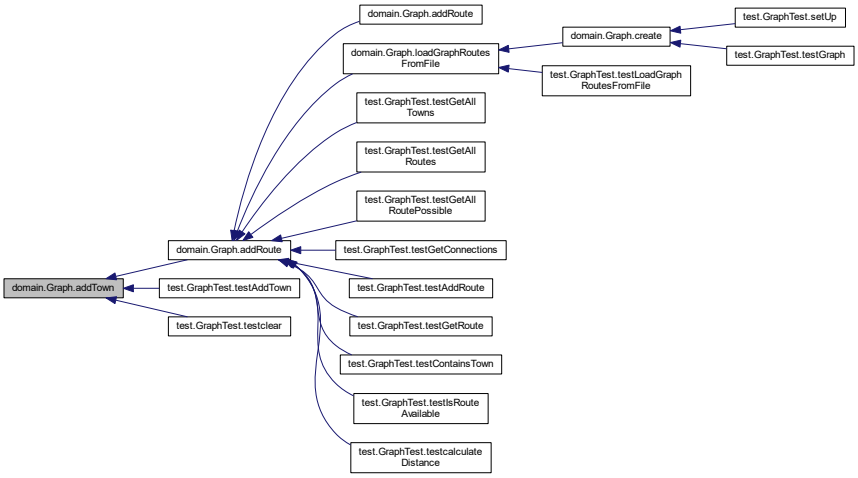
Parameters

key	Chave utilizada no map

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.2.4 calculateDistance()

```
double domain.Graph.calculateDistance (
            String trip )
```

Calcula a distancia total de uma rota(viagem)

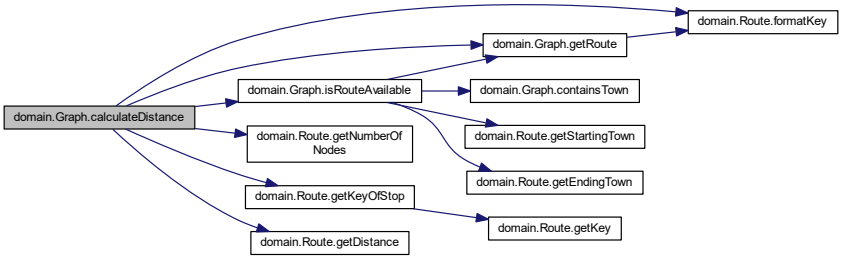
Parameters

route	Key da rota(viagem) que se deseja calcular a distancia

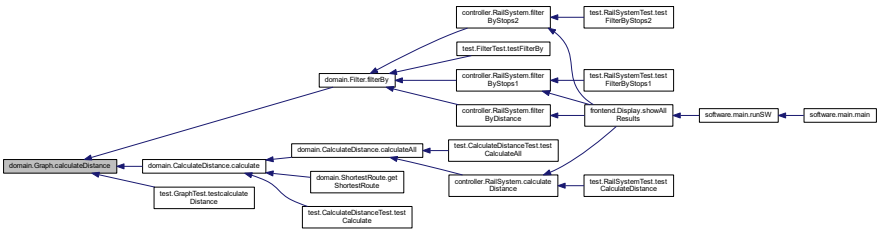
Returns

Valor da distancia. Retornara 0 se a rota nao for possivel

Here is the call graph for this function:



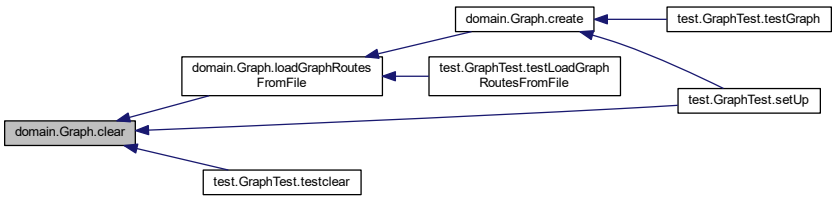
Here is the caller graph for this function:



6.9.2.5 clear()

```
void domain.Graph.clear ( )
```

Exclui todos as rotas e casas dos containners Here is the caller graph for this function:



6.9.2.6 containsTown()

```
boolean domain.Graph.containsTown (
            String key_town )
```

Verifica se a cidade existe e se a referencia do objeto no containner e valida

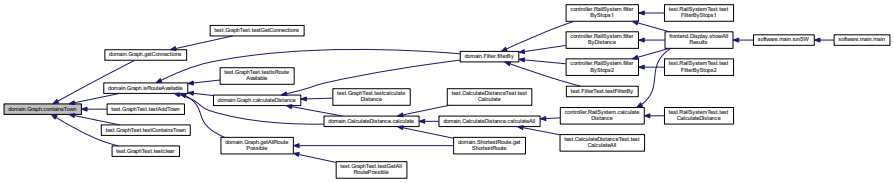
Parameters

key_town	ke da chave para ser verficada

Returns

Retorna true se a cidade existe e com referencia valida

Here is the caller graph for this function:



6.9.2.7 create()

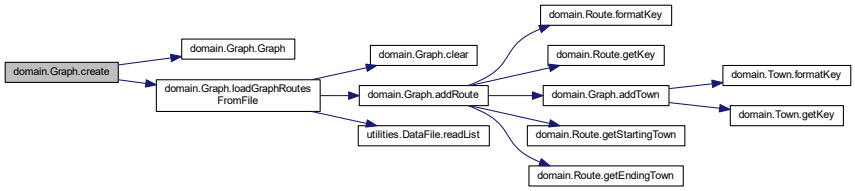
```
static synchronized Graph domain.Graph.create ( )  [static]
```

Metodo construtor para manter um Singleton de Graph.

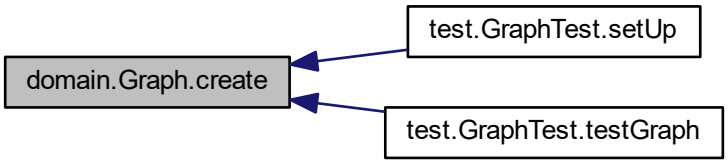
Padrao Singleton

Returns

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.2.8 getAllRoutePossible()

```
String [] domain.Graph.getAllRoutePossible (
            Route trip )
```

Retorna todas as possiveis rotas para uma viagem

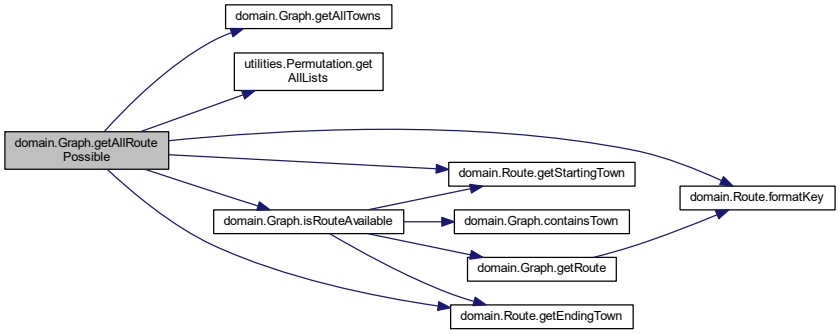
Parameters

trip	E a rota da viagem contendo a cidade de destino e origem da viagem

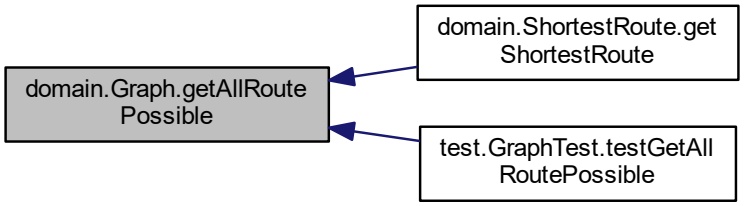
Returns

Retorna todas as possiveis rotas para a viagem

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.2.9 getAllRoutes()

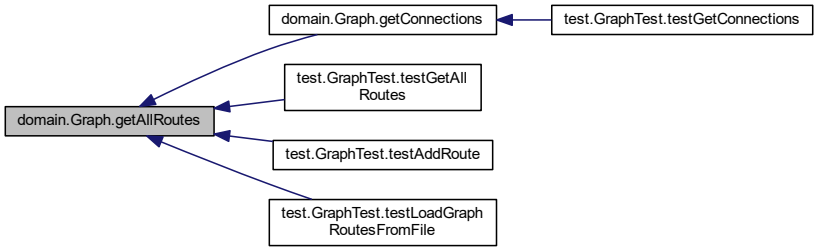
```
String [] domain.Graph.getAllRoutes ( )
```

Retorna a lista dos keys de todas as rotas disponiveis

Returns

Lsita de key das rotas

Here is the caller graph for this function:



6.9.2.10 getAllTowns()

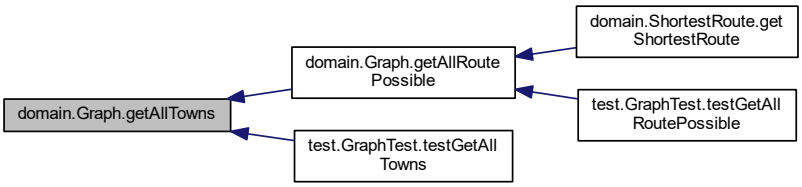
```
String [] domain.Graph.getAllTowns ( )
```

Retorna a lista dos keys de todas as cidades disponiveis

Returns

Lista de keys das cidades

Here is the caller graph for this function:



6.9.2.11 getConnections()

```
String [] domain.Graph.getConnections (
            String key_town )
```

Retorna as conexoes disponiveis para uma determinada cidade

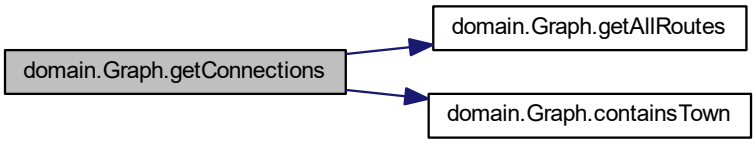
Parameters

key_town	Key da cidade que se deseja listar as conexoes existentes

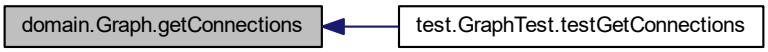
Returns

Lista das conexoes existentes para a cidade. Caso rotas ou a cidade nao exista retornara null

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.2.12 getRoute()

```
Route domain.Graph.getRoute (
            String key_route )
```

Retorna rota indicado por key_route

Parameters

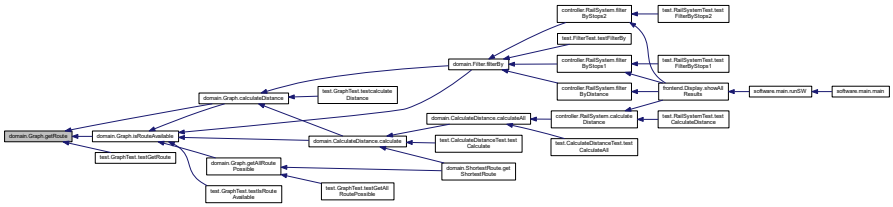
key_route	Key da rota que se deseja retornar

Returns

Retorna a rota correspondente ao key_route. Se a rota nao existir retorna null.

Here is the call graph for this function:

Here is the caller graph for this function:



6.9.2.13 isRouteAvailable()

```
boolean domain.Graph.isRouteAvailable (
            String route )
```

Verifica se a rota e valida e disponivel

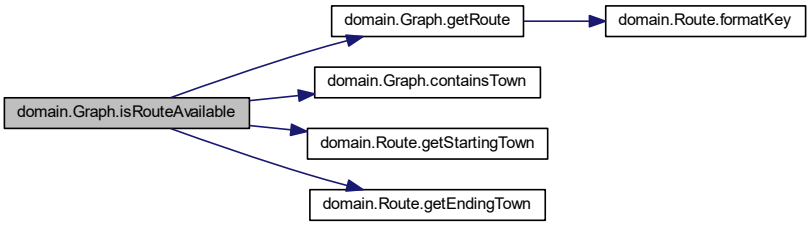
Parameters

route	Key da rota a ser verificado

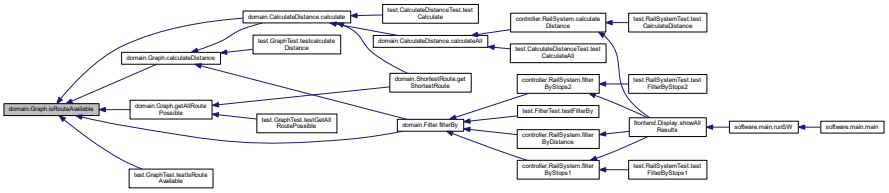
Returns

Retorna true se a rota for possivel

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.2.14 loadGraphRoutesFromFile()

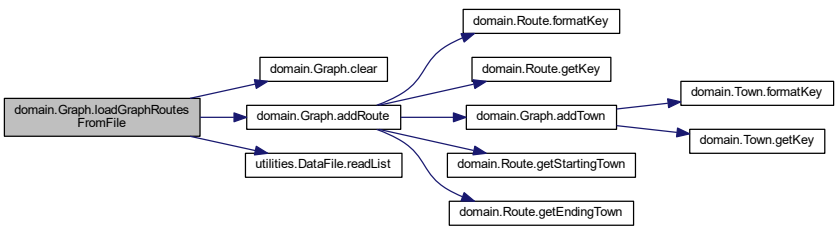
```
void domain.Graph.loadGraphRoutesFromFile ( )
```

Carrega as rotas do mapa contidas no arquivo de entrada "input.txt na propriedade "graph.routes"

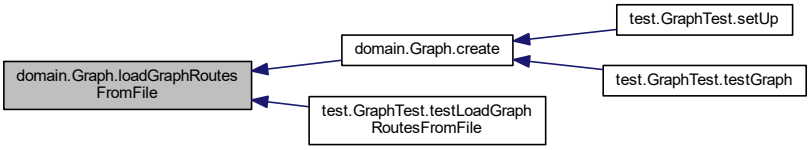
See also

input.txt

Here is the call graph for this function:



Here is the caller graph for this function:



6.9.3 Member Data Documentation

6.9.3.1 graph

```
Graph domain.Graph.graph = null  [static], [package]
```

Referencia do Singleton

6.9.3.2 mapRoutes

```
Map<String , Route> domain.Graph.mapRoutes = null  [private]
```

Containner de Rotas disponiveis Formato do key String ex: 'AB'

6.9.3.3 mapTowns

```
Map<String , Town> domain.Graph.mapTowns = null  [private]
```

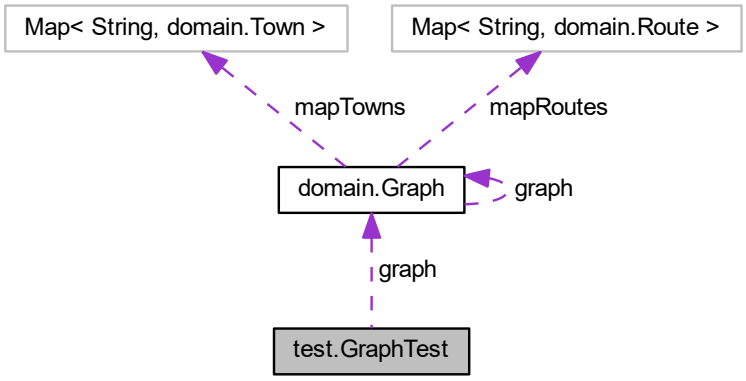
Container de cidades Formato do key String ex: 'A'

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/domain/Graph.java

6.10 test.GraphTest Class Reference

Collaboration diagram for test.GraphTest:



Public Member Functions

- void setUp () throws Exception
- void testGraph ()
- void testGetAllTowns ()
- void testGetAllRoutes ()
- void testGetAllRoutePossible ()
- void testGetConnections ()
- void testAddRoute ()
- void testAddTown ()
- void testGetRoute ()
- void testLoadGraphRoutesFromFile ()
- void testContainsTown ()
- void testIsRouteAvailable ()
- void testcalculateDistance ()
- void testclear ()

Package Attributes

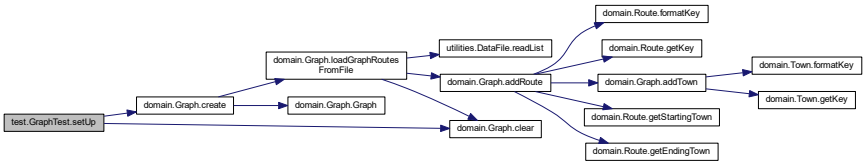
- Graph graph

6.10.1 Member Function Documentation

6.10.1.1 setUp()

```
void test.GraphTest.setUp ( ) throws Exception
```

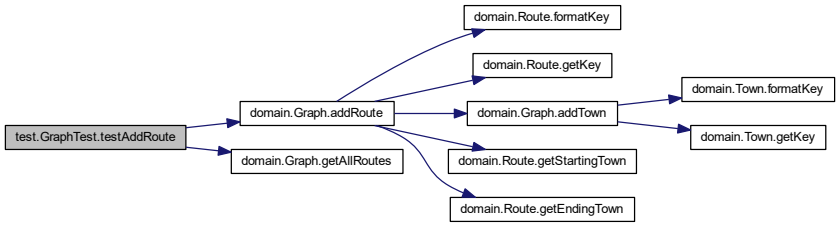
Here is the call graph for this function:



6.10.1.2 testAddRoute()

```
void test.GraphTest.testAddRoute ( )
```

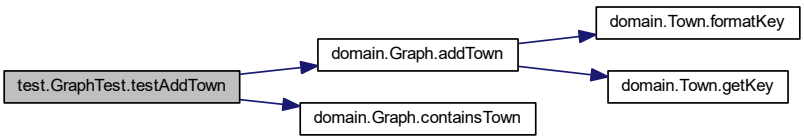
Here is the call graph for this function:



6.10.1.3 testAddTown()

```
void test.GraphTest.testAddTown ( )
```

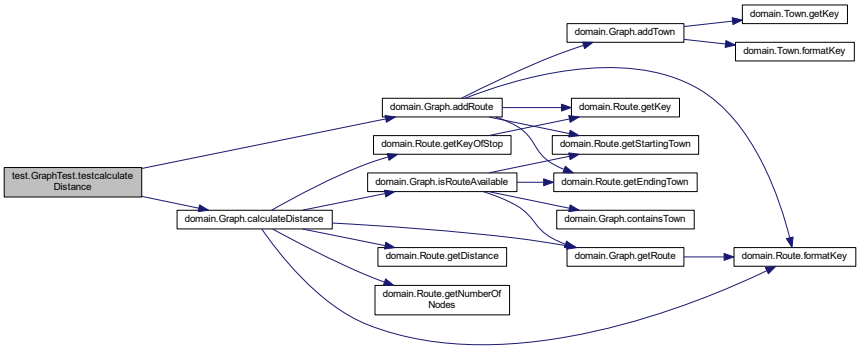
Here is the call graph for this function:



6.10.1.4 testcalculateDistance()

```
void test.GraphTest.testcalculateDistance ( )
```

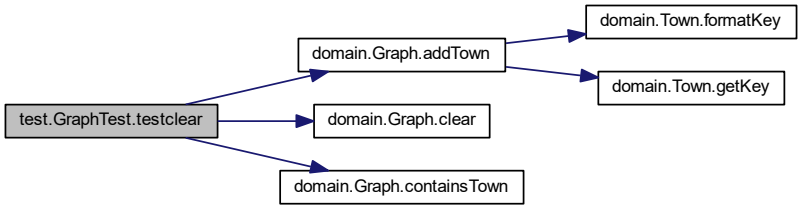
Here is the call graph for this function:



6.10.1.5 testclear()

```
void test.GraphTest.testclear ( )
```

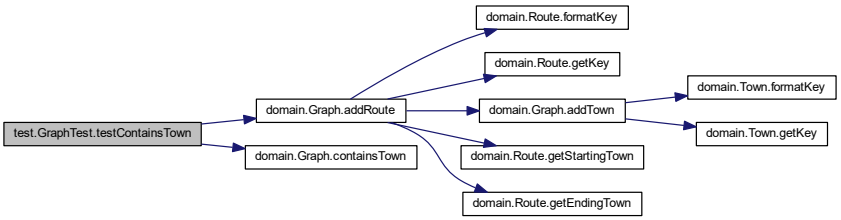
Here is the call graph for this function:



6.10.1.6 testContainsTown()

```
void test.GraphTest.testContainsTown ( )
```

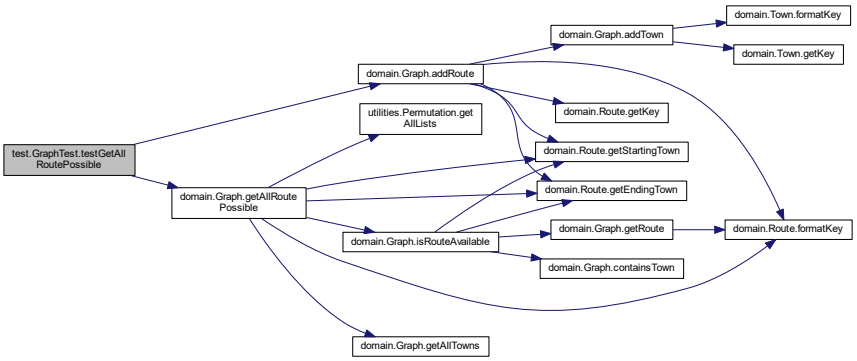
Here is the call graph for this function:



6.10.1.7 testGetAllRoutePossible()

```
void test.GraphTest.testGetAllRoutePossible ( )
```

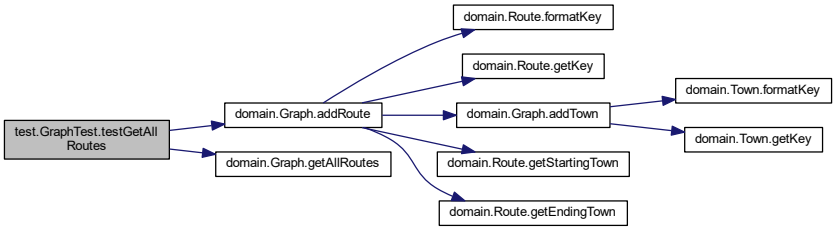
Here is the call graph for this function:



6.10.1.8 testGetAllRoutes()

```
void test.GraphTest.testGetAllRoutes ( )
```

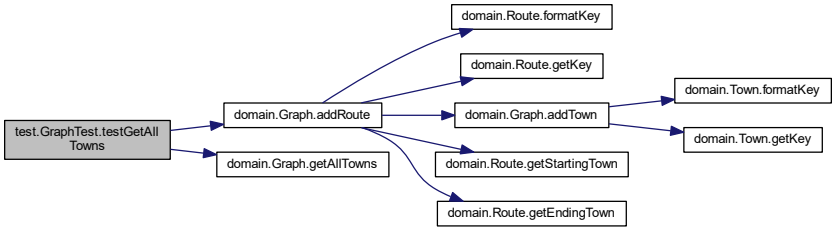
Here is the call graph for this function:



6.10.1.9 testGetAllTowns()

```
void test.GraphTest.testGetAllTowns ( )
```

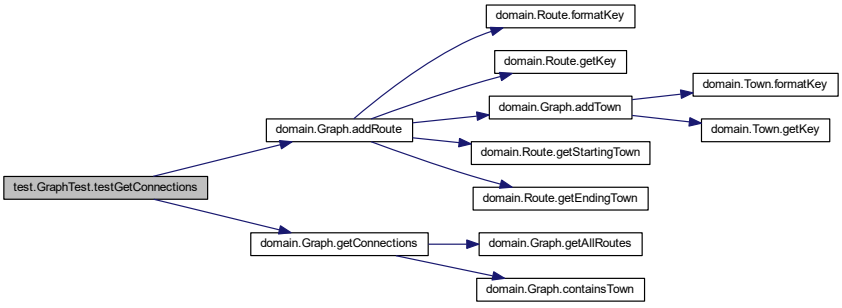
Here is the call graph for this function:



6.10.1.10 testGetConnections()

```
void test.GraphTest.testGetConnections ( )
```

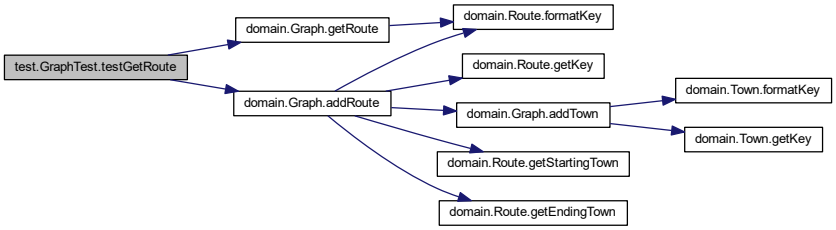
Here is the call graph for this function:



6.10.1.11 testGetRoute()

```
void test.GraphTest.testGetRoute ( )
```

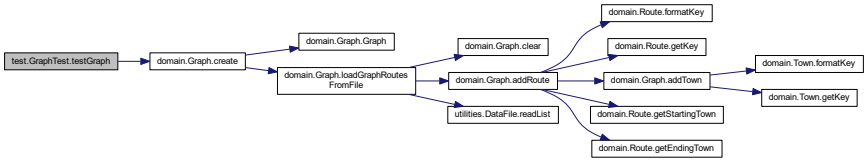
Here is the call graph for this function:



6.10.1.12 testGraph()

```
void test.GraphTest.testGraph ( )
```

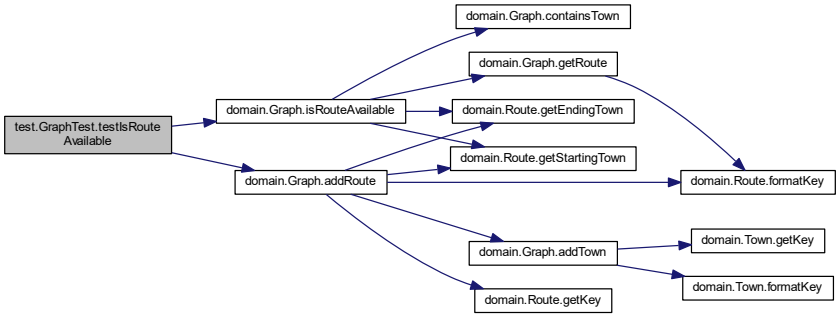
Here is the call graph for this function:



6.10.1.13 testIsRouteAvailable()

```
void test.GraphTest.testIsRouteAvailable ( )
```

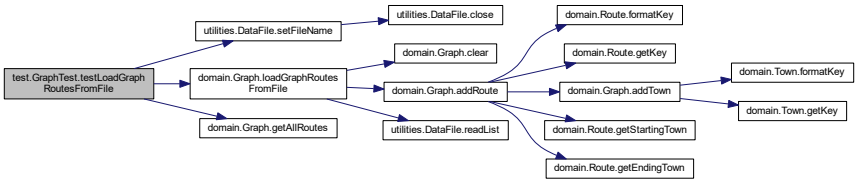
Here is the call graph for this function:



6.10.1.14 testLoadGraphRoutesFromFile()

```
void test.GraphTest.testLoadGraphRoutesFromFile ( )
```

Here is the call graph for this function:



6.10.2 Member Data Documentation

6.10.2.1 graph

```
Graph test.GraphTest.graph  [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/GraphTest.java

6.11 software.main Class Reference

Static Public Member Functions

- static void main (String[ ] args)

Static Package Functions

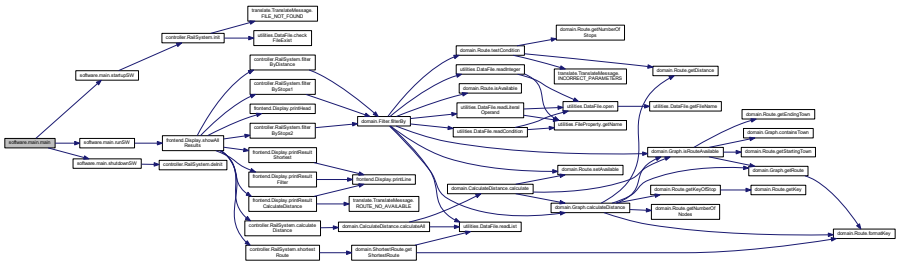
- static boolean startupSW ()
- static void runSW ()
- static void shutdownSW ()

6.11.1 Constructor & Destructor Documentation

6.11.1.1 main()

```
static void software.main.main (
            String [] args )  [static]
```

Here is the call graph for this function:

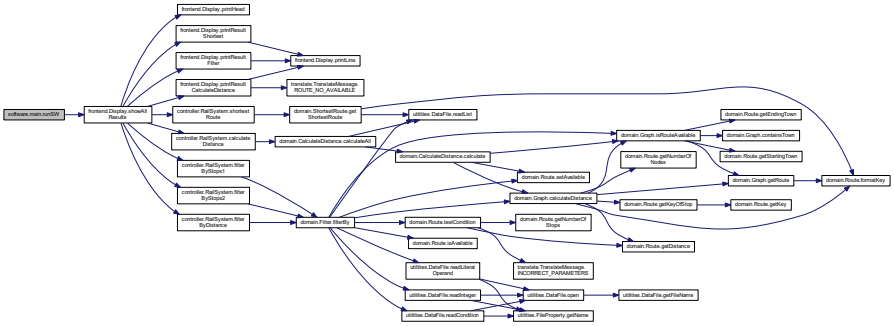


6.11.2 Member Function Documentation

6.11.2.1 runSW()

```
static void software.main.runSW ( )  [static], [package]
```

Execucao do SW Here is the call graph for this function:



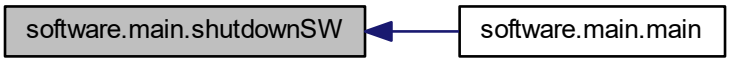
Here is the caller graph for this function:

6.11.2.2 shutdownSW()

```
static void software.main.shutdownSW ( )  [static], [package]
```

Executa o shutdown do SW Here is the call graph for this function:

Here is the caller graph for this function:



6.11.2.3 startupSW()

```
static boolean software.main.startupSW ( )  [static], [package]
```

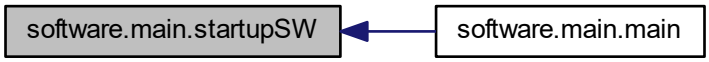
Inicializacao do SW

Returns

Retorna true se a inicializacao foi bem sucedida

Here is the call graph for this function:

Here is the caller graph for this function:



The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/software/main.java

6.12 utilities.Permutation Class Reference

Static Public Member Functions

- static String [ ] getAllLists (String[ ] elements, int lengthOfList)

6.12.1 Member Function Documentation

6.12.1.1 getAllLists()

```
static String [ ] utilities.Permutation.getAllLists (
            String [ ] elements,
            int lengthOfList )  [static]
```

Cria todas as possiveis combinacoes entre os elementos de uma lista

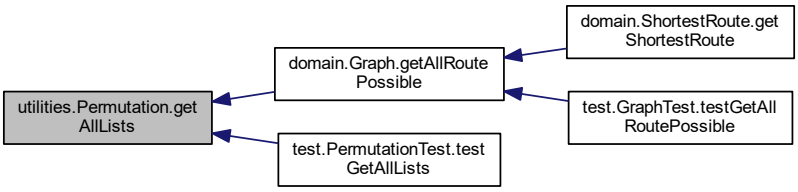
Parameters

elements	Lista de elementos
lengthOfList	quantidade de elementos

Returns

Lista com todas as combinacoes

Here is the caller graph for this function:



The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/utilities/Permutation.java

6.13 test.PermutationTest Class Reference

Public Member Functions

- void setUp () throws Exception
- void testGetAllLists ()

6.13.1 Member Function Documentation

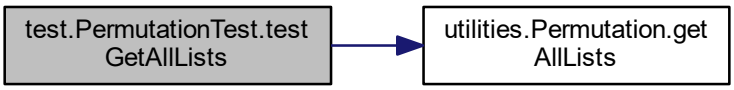
6.13.1.1 setUp()

```
void test.PermutationTest.setUp ( ) throws Exception
```

6.13.1.2 testGetAllLists()

```
void test.PermutationTest.testGetAllLists ( )
```

Here is the call graph for this function:

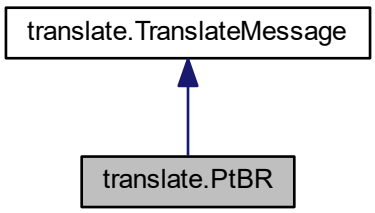


The documentation for this class was generated from the following file:

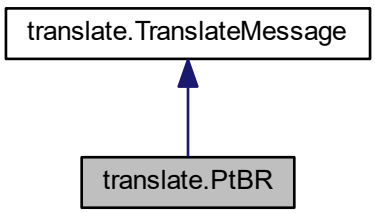
- D:/workspace/TrainVagas/src/test/PermutationTest.java

6.14 translate.PtBR Class Reference

Inheritance diagram for translate.PtBR:



Collaboration diagram for translate.PtBR:



Public Member Functions

- String TOW_NO_EXIST ()
- String ROUTE_NO_AVAILABLE ()
- String INCORRECT_PARAMETERS ()
- String FILE_NOT_FOUND ()
- String PROPERTY_NOT_FOUND ()

Static Package Attributes

- static final String TOW_NO_EXIST = "Cidade nao existente"
- static final String ROUTE_NO_AVAILABLE = "Rota nao disponivel"
- static final String INCORRECT_PARAMETERS = "Parametros do filtro errado.Verificar o arquivo de entrada"
- static final String FILE_NOT_FOUND = "Arquivo de entrada(input.txt) nao encontrado"
- static final String PROPERTY_NOT_FOUND = "Propriedade nao encontrada no arquivo de entrada"

6.14.1 Member Function Documentation

6.14.1.1 FILE_NOT_FOUND()

```
String translate.PtBR.FILE_NOT_FOUND ( )
```

Implements translate.TranslateMessage.

6.14.1.2 INCORRECT_PARAMETERS()

```
String translate.PtBR.INCORRECT_PARAMETERS ( )
```

Implements translate.TranslateMessage.

6.14.1.3 PROPERTY_NOT_FOUND()

```
String translate.PtBR.PROPERTY_NOT_FOUND ( )
```

Implements translate.TranslateMessage.

6.14.1.4 ROUTE_NO_AVAILABLE()

```
String translate.PtBR.ROUTE_NO_AVAILABLE ( )
```

Implements translate.TranslateMessage.

6.14.1.5 TOW_NO_EXIST()

```
String translate.PtBR.TOW_NO_EXIST ( )
```

Implements translate.TranslateMessage.

6.14.2 Member Data Documentation

6.14.2.1 FILE_NOT_FOUND

```
final String translate.PtBR.FILE_NOT_FOUND = "Arquivo de entrada(input.txt) nao encontrado"
[static], [package]
```

6.14.2.2 INCORRECT_PARAMETERS

```
final String translate.PtBR.INCORRECT_PARAMETERS = "Parametros do filtro errado.Verificar o
arquivo de entrada"  [static], [package]
```

6.14.2.3 PROPERTY_NOT_FOUND

```
final String translate.PtBR.PROPERTY_NOT_FOUND = "Propriedade nao encontrada no arquivo de
entrada"  [static], [package]
```

6.14.2.4 ROUTE_NO_AVAILABLE

```
final String translate.PtBR.ROUTE_NO_AVAILABLE = "Rota nao disponivel"  [static], [package]
```

6.14.2.5 TOW_NO_EXIST

```
final String translate.PtBR.TOW_NO_EXIST = "Cidade nao existente"  [static], [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/translate/PtBR.java

6.15 controller.RailSystem Class Reference

Static Public Member Functions

- static Route [ ] filterByStops1 ()
- static Route [ ] filterByStops2 ()
- static Route [ ] filterByDistance ()
- static Route [ ] calculateDistance ()
- static Map< String,Route[ ]> shortestRoute ()
- static boolean init ()
- static void deInit ()

6.15.1 Member Function Documentation

6.15.1.1 calculateDistance()

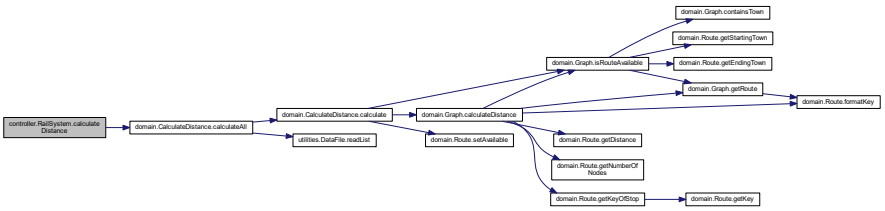
```
static Route [ ] controller.RailSystem.calculateDistance ( )  [static]
```

Calcula as distancias da rotas mapeadas no arquivo na propriedade 'distance.routes'

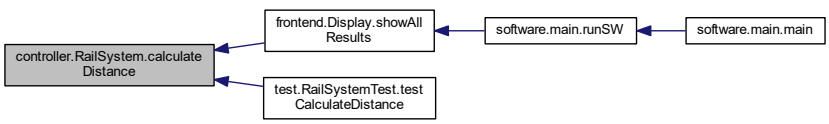
Returns

Retorna lista de rotas com as distancias calculadas

Here is the call graph for this function:



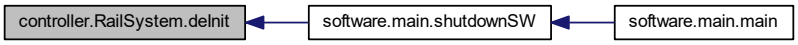
Here is the caller graph for this function:



6.15.1.2 deInit()

```
static void controller.RailSystem.deInit ( )  [static]
```

Finaliza o sistema de rotas Here is the caller graph for this function:



6.15.1.3 filterByDistance()

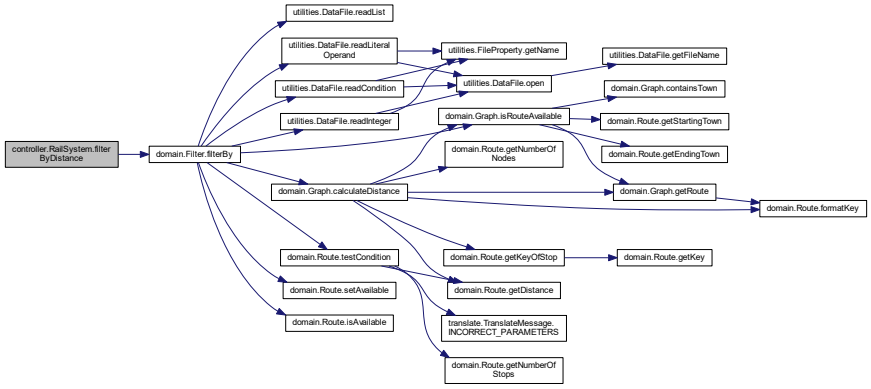
```
static Route [] controller.RailSystem.filterByDistance ( )  [static]
```

Esse filtro esta mapeado no arquivo de entrada com o index = 3(DataFile.DISTANCE_CONDITION) Condicao do filtro DISTANCE $<$ 30

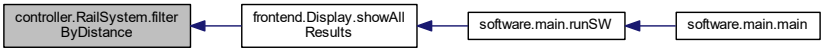
Returns

Retorna uma lista de rotas filtradas pela condicao

Here is the call graph for this function:



Here is the caller graph for this function:



6.15.1.4 filterByStops1()

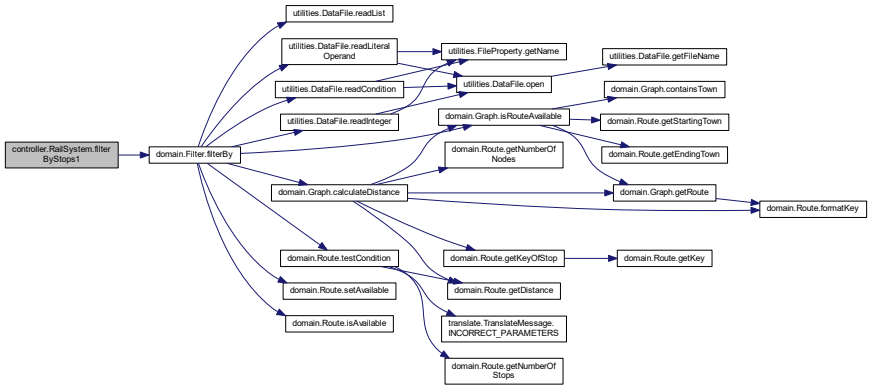
```
static Route [] controller.RailSystem.filterByStops1 ( )  [static]
```

Esse filtro esta mapeado no arquivo de entrada com o index = 1(DataFile.STOP1_CONDITION) Condicao do filtro STOPS <= 3

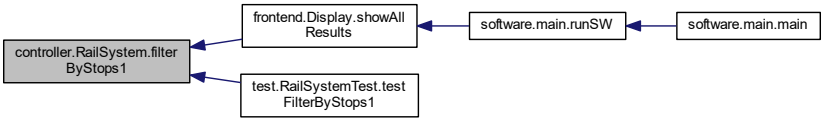
Returns

Retorna rotas filtradas pela condicao

Here is the call graph for this function:



Here is the caller graph for this function:



6.15.1.5 filterByStops2()

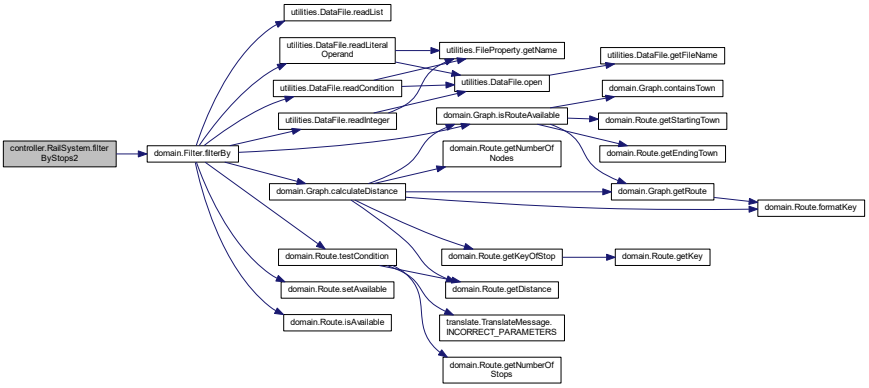
```
static Route [] controller.RailSystem.filterByStops2 ( )  [static]
```

Esse filtro esta mapeado no arquivo de entrada com o index = 2(DataFile.STOP2_CONDITION) Condicao do filtro STOPS == 4

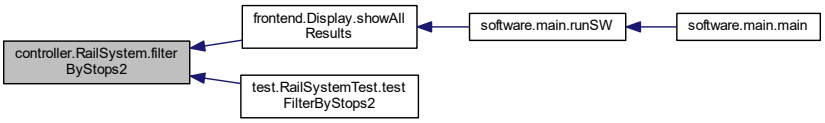
Returns

Retorna uma lista de rotas filtradas pela condicao

Here is the call graph for this function:



Here is the caller graph for this function:



6.15.1.6 init()

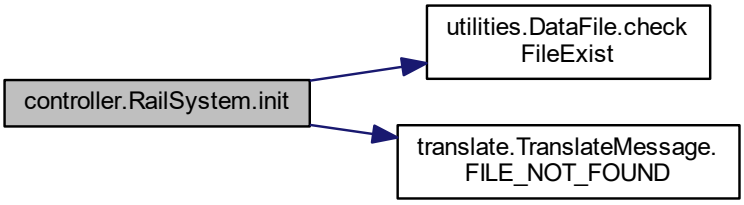
```
static boolean controller.RailSystem.init ( )  [static]
```

Inicializa o sistema de rotas

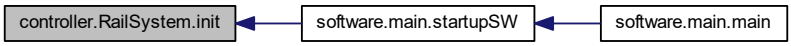
Returns

Se a inicializacao ocorreu com sucesso retorna true

Here is the call graph for this function:



Here is the caller graph for this function:



6.15.1.7 shortestRoute()

```
static Map<String ,Route[]> controller.RailSystem.shortestRoute ( )  [static]
```

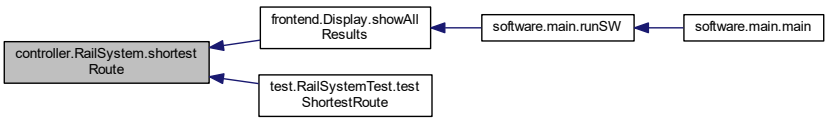
Mapeia todas as rotas mais curtas de todas as viagens

Returns

Retorna uma lista de rotas mais curtas para cada viagem/rota

Here is the call graph for this function:

Here is the caller graph for this function:



The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/controller/RailSystem.java

6.16 test.RailSystemTest Class Reference

Public Member Functions

- void setUp () throws Exception
- void testFilterByStops1 ()
- void testFilterByStops2 ()
- void testCalculateDistance ()
- void testShortestRoute ()

6.16.1 Member Function Documentation

6.16.1.1 setUp()

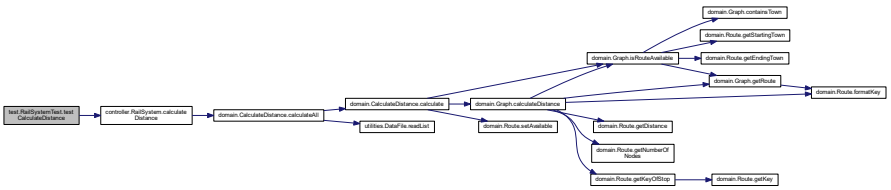
```
void test.RailSystemTest.setUp ( ) throws Exception
```

Here is the call graph for this function:

6.16.1.2 testCalculateDistance()

```
void test.RailSystemTest.testCalculateDistance ( )
```

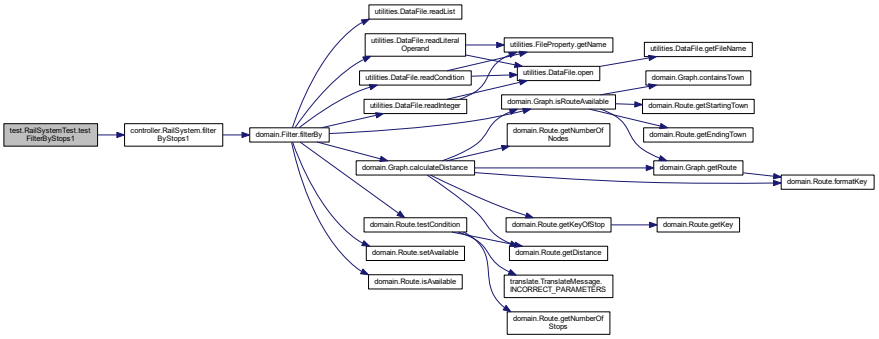
Here is the call graph for this function:



6.16.1.3 testFilterByStops1()

```
void test.RailSystemTest.testFilterByStops1 ( )
```

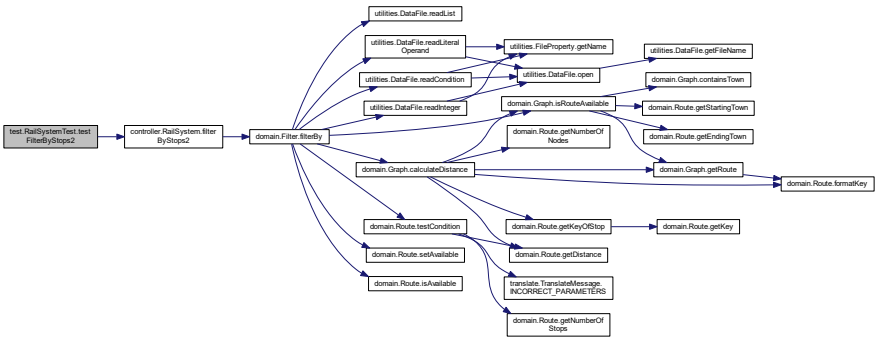
Here is the call graph for this function:



6.16.1.4 testFilterByStops2()

```
void test.RailSystemTest.testFilterByStops2 ( )
```

Here is the call graph for this function:



6.16.1.5 testShortestRoute()

```
void test.RailSystemTest.testShortestRoute ( )
```

Here is the call graph for this function:

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/RailSystemTest.java

6.17 domain.Route Class Reference

Public Member Functions

- Route ()
- Route (String id, double total_distance)
- Route (String route)
- String getStartingTown ()
- double getDistance ()
- int getNumberOfNodes ()
- int getNumberOfStops ()
- String getKeyOfStop (int n_stop)
- void setRoute (String route)
- void setKey (String r)
- void setTotalDistance (String val)
- void setTotalDistance (double val)
- String getKey ()
- String getEndingTown ()
- boolean isAvailable ()
- void setAvailable (boolean exist)
- boolean testCondition (String condition, String operand, double valor2)

Static Public Member Functions

- static String formatKey (String key_route)

Private Attributes

- String key
- double totalDistance
- boolean available

Static Private Attributes

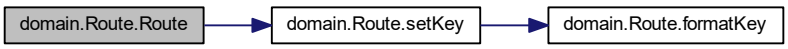
- static final int MINIMAL_SIZE_OF_ID = 2
- static final String PATTERN_ID ="[^a-zA-Z]"
- static final String PATTERN_DOUBLE ="[^0-9.,]"
- static final String PATTERN_NO_DUPLICATE ="(\\D)\\1{1}"

6.17.1 Constructor & Destructor Documentation

6.17.1.1 Route() [1/3]

```
domain.Route.Route ( )
```

Construtor Here is the call graph for this function:



6.17.1.2 Route() [2/3]

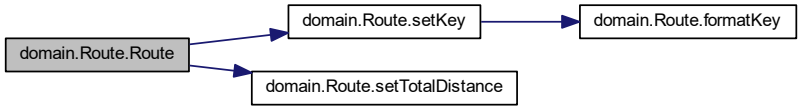
```
domain.Route.Route (
            String id,
            double total_distance )
```

Construtor

Parameters

id	key da rota
total_distance	distancia da rota

Here is the call graph for this function:



6.17.1.3 Route() [3/3]

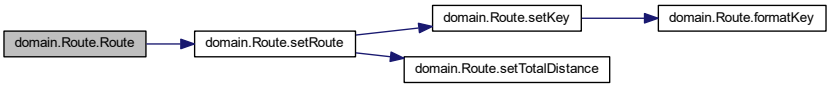
```
domain.Route.Route (
            String route )
```

Construtor

Parameters

route	Key+distancia em formato de string Ex: AB50

Here is the call graph for this function:



6.17.2 Member Function Documentation

6.17.2.1 formatKey()

```
static String domain.Route.formatKey (
            String key_route )  [static]
```

Formata uma string para o padrao do key de rota

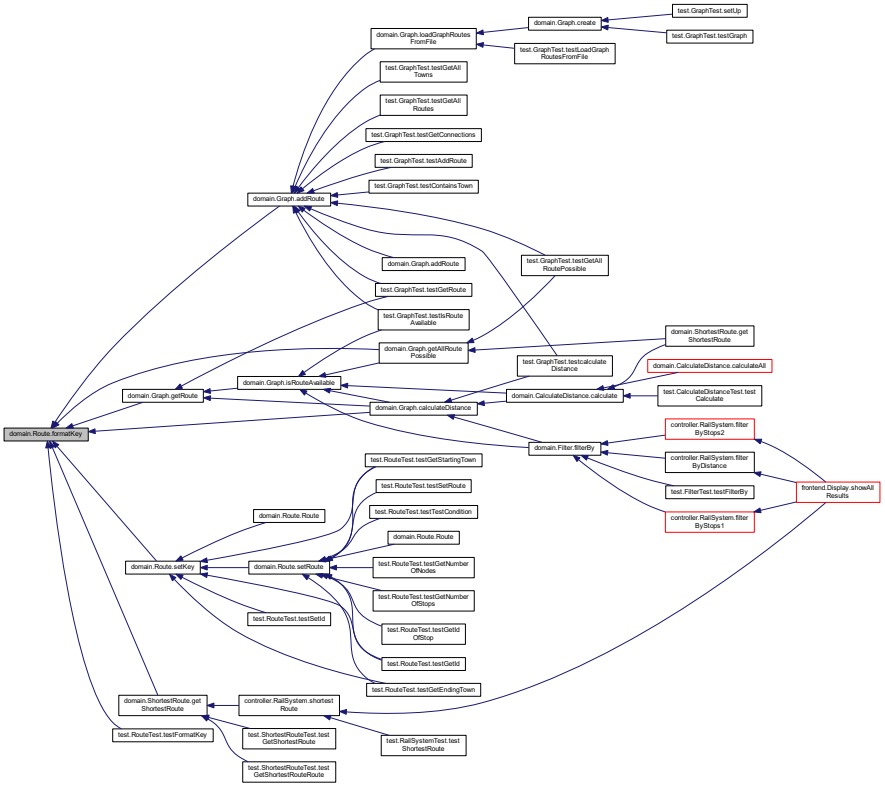
Parameters

key_route	key a ser formatado

Returns

string formatada

Here is the caller graph for this function:



6.17.2.2 getDistance()

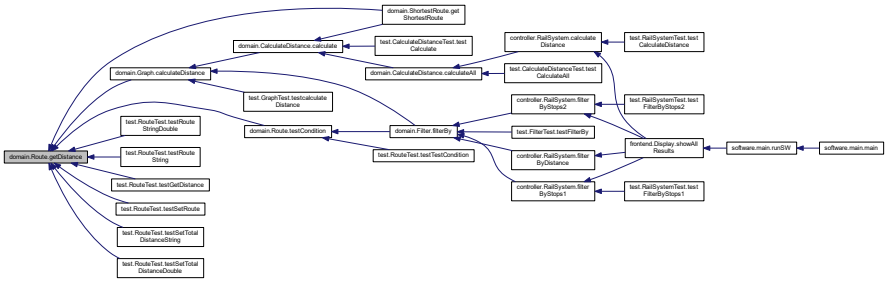
```
double domain.Route.getDistance ( )
```

Retorna a distancia total de uma rota(viagem)

Returns

Retorna a distancia total de uma rota(viagem)

Here is the caller graph for this function:



6.17.2.3 getEndingTown()

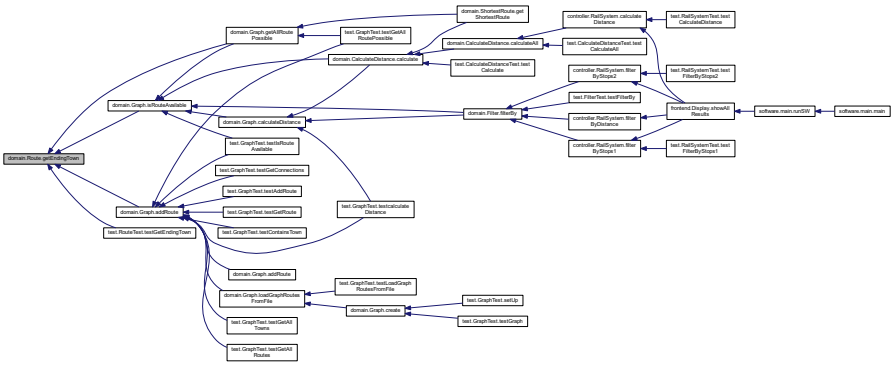
```
String domain.Route.getEndingTown ( )
```

Retona a cidade de destino de uma rota

Returns

Cidade de destino

Here is the caller graph for this function:



6.17.2.4 getKey()

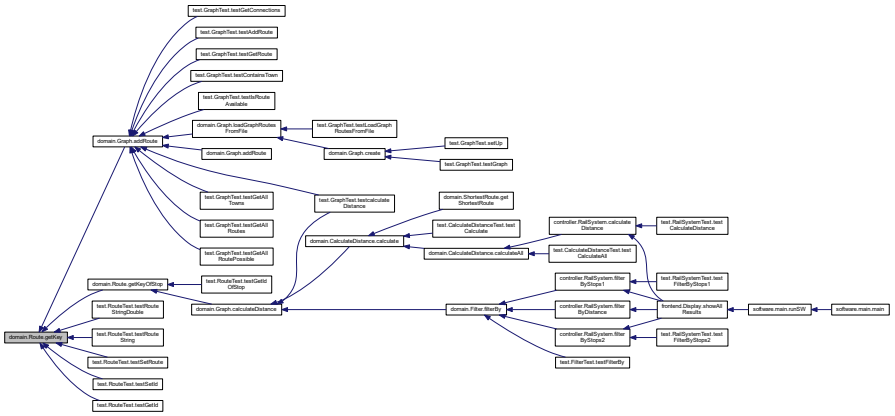
```
String domain.Route.getKey ( )
```

Retorna a key da rota

Returns

O key da rota

Here is the caller graph for this function:



6.17.2.5 getKeyOfStop()

```
String domain.Route.getKeyOfStop (
            int n_stop )
```

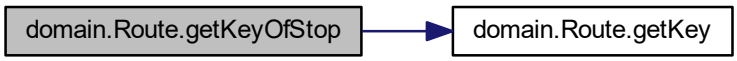
Retorna o key do trecho entre uma parada ate a proxima estacao

Parameters

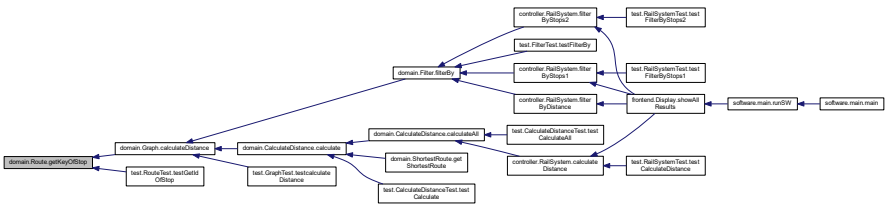
n_stop	numero da parada que se deseja o retorno do trecho

Returns

Here is the call graph for this function:



Here is the caller graph for this function:



6.17.2.6 getNumberOfNodes()

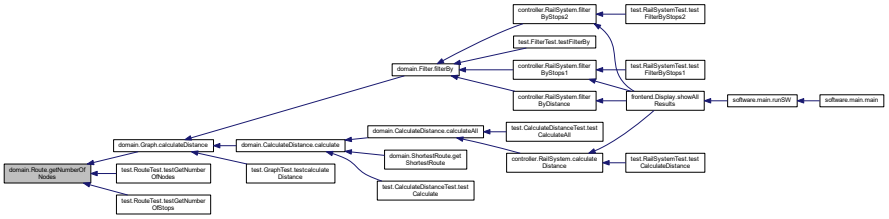
```
int domain.Route.getNumberOfNodes ( )
```

Retorna o numero de node des uma rota(viagem)

Returns

Numero de nodes

Here is the caller graph for this function:



6.17.2.7 getNumberOfStops()

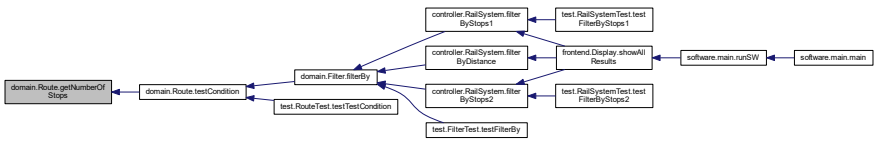
```
int domain.Route.getNumberOfStops ( )
```

Retorna o numero de paradas que serao feitas em uma rota(viagem) a partida nao e considerada como uma parada

Returns

Numero de paradas

Here is the caller graph for this function:



6.17.2.8 getStartingTown()

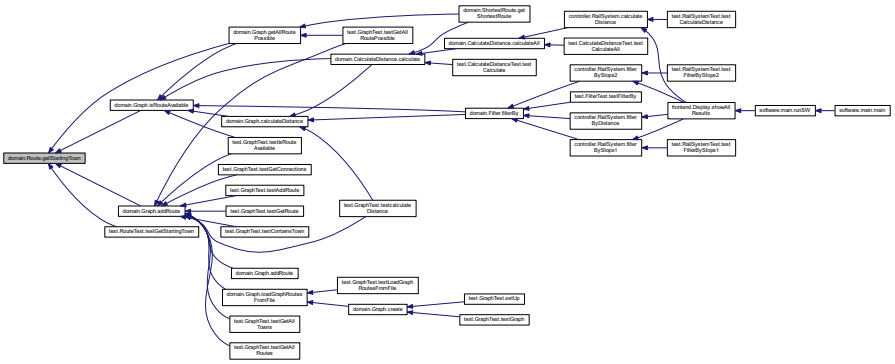
```
String domain.Route.getStartingTown ( )
```

Retona cidade de origem de uma rota(viagem)

Returns

Retorna a cidade de origem de uma rota(viagen)

Here is the caller graph for this function:



6.17.2.9 isAvailable()

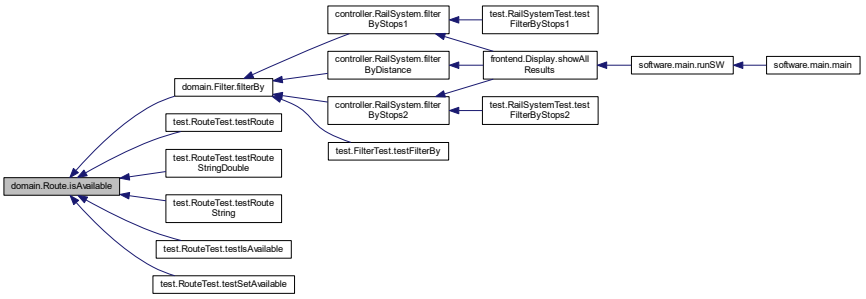
```
boolean domain.Route.isAvailable ( )
```

Retorna a disponibilidade de uma rota

Returns

Retorna se a rota e valida/disponivel

Here is the caller graph for this function:



6.17.2.10 setAvailable()

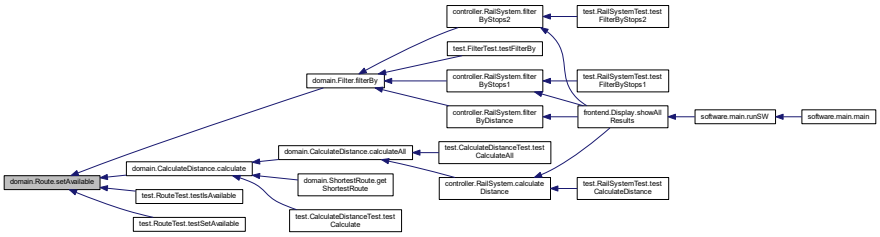
```
void domain.Route.setAvailable (
            boolean exist )
```

Set a disponibilidade da rota

Parameters

exist	

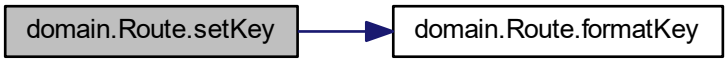
Here is the caller graph for this function:



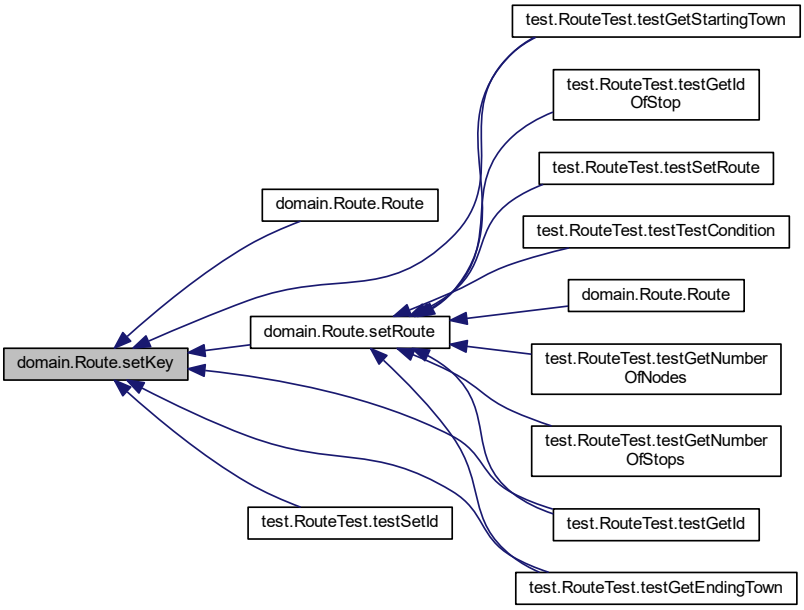
6.17.2.11 setKey()

```
void domain.Route.setKey (
            String r )
```

Here is the call graph for this function:



Here is the caller graph for this function:



6.17.2.12 setRoute()

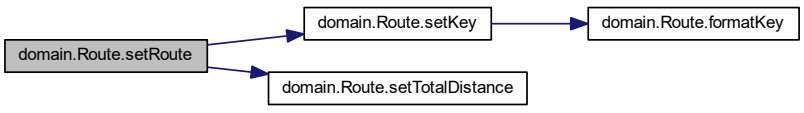
```
void domain.Route.setRoute (
            String route )
```

Configura o key e a distancia da rota atraves de uma string

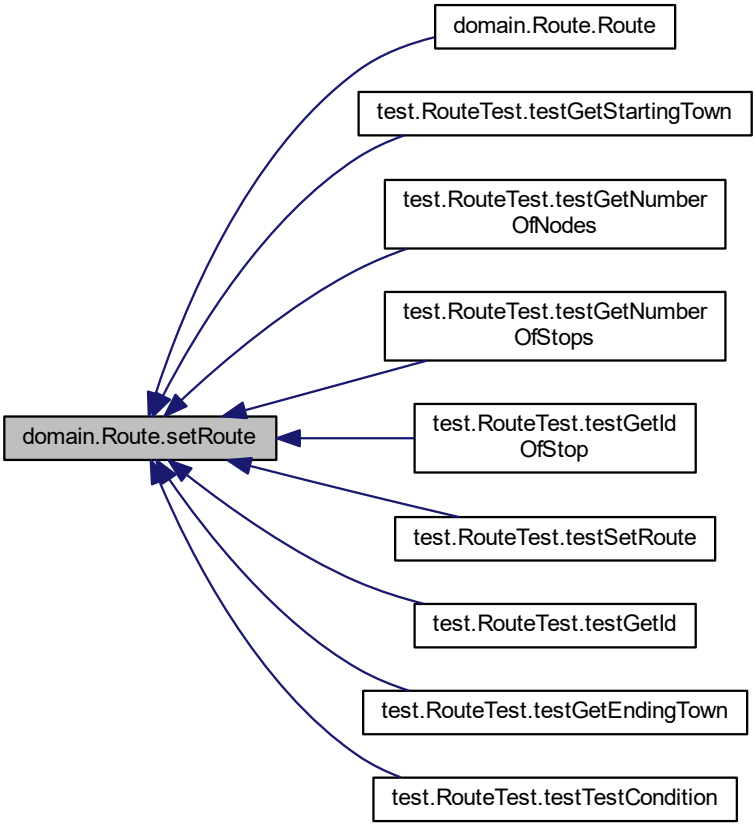
Parameters

route	Key+distancia em formato de string Ex: AB50

Here is the call graph for this function:



Here is the caller graph for this function:



6.17.2.13 setTotalDistance() [1/2]

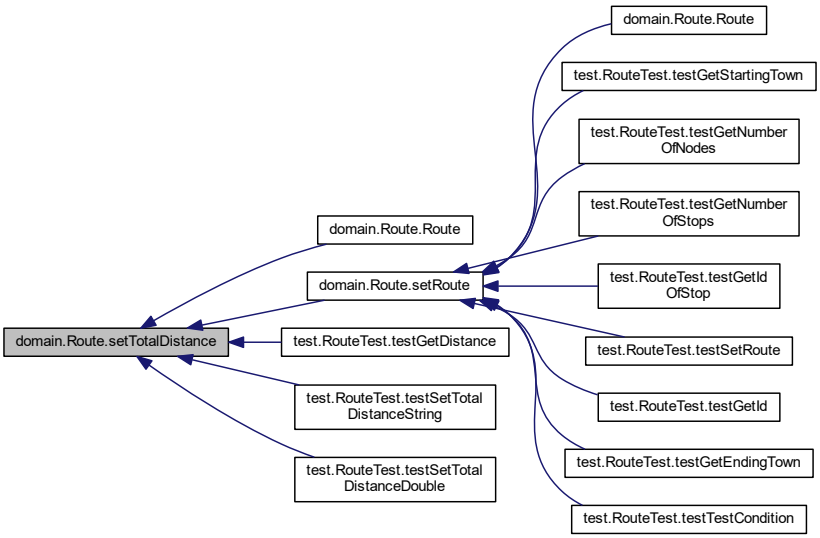
```
void domain.Route.setTotalDistance (
            String val )
```

Set a distancia de uma rota(viagem)

Parameters

val	valor da distancia(no formato de texto) que sera usado para definir a distancia total da rota.

Here is the caller graph for this function:



6.17.2.14 setTotalDistance() [2/2]

```
void domain.Route.setTotalDistance (
            double val )
```

Set a distancia de uma rota(viagem)

Parameters

val	valor da distancia que sera usado para definir a distancia total da rota

6.17.2.15 testCondition()

```
boolean domain.Route.testCondition (
            String condition,
            String operand,
            double valor2 )
```

Executa o teste da condicao

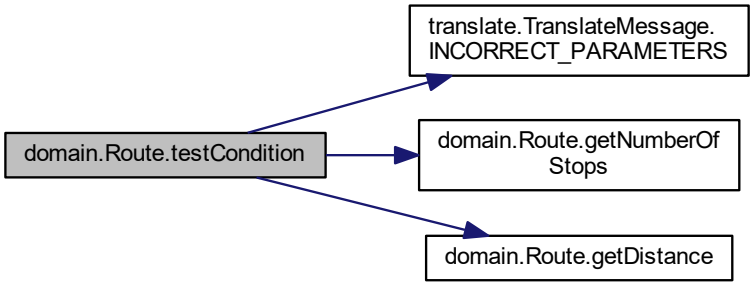
Parameters

condition	Condicao literal(texto) a ser considerada
operand	o operando literal (texto) que se deseja verificar
valor2	valor usado como referencia na verificacao

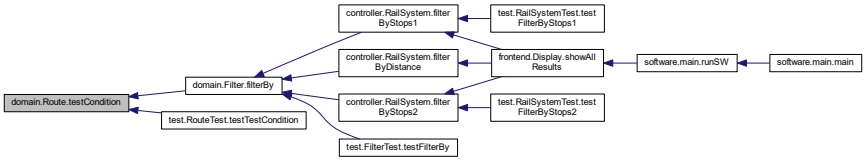
Returns

Retorna o resultado do teste

Here is the call graph for this function:



Here is the caller graph for this function:



6.17.3 Member Data Documentation

6.17.3.1 available

```
boolean domain.Route.available  [private]
```

Indica se a rota existe

6.17.3.2 key

```
String domain.Route.key  [private]
```

Identificador usado nos maps

6.17.3.3 MINIMAL_SIZE_OF_ID

```
final int domain.Route.MINIMAL_SIZE_OF_ID = 2  [static], [private]
```

6.17.3.4 PATTERN_DOUBLE

```
final String domain.Route.PATTERN_DOUBLE ="[^0-9.,]"  [static], [private]
```

6.17.3.5 PATTERN_ID

```
final String domain.Route.PATTERN_ID ="[^a-zA-Z]"  [static], [private]
```

6.17.3.6 PATTERN_NO_DUPLICATE

```
final String domain.Route.PATTERN_NO_DUPLICATE ="(\\D)\\1{1}"  [static], [private]
```

6.17.3.7 totalDistance

```
double domain.Route.totalDistance  [private]
```

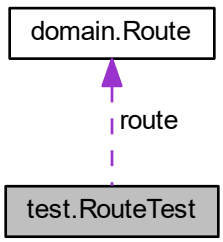
Distancia total da rota ou viagem

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/domain/Route.java

6.18 test.RouteTest Class Reference

Collaboration diagram for test.RouteTest:



Public Member Functions

- void setUp () throws Exception
- void testRoute ()
- void testRouteStringDouble ()
- void testRouteString ()
- void testGetStartingTown ()
- void testGetDistance ()
- void testGetNumberOfNodes ()
- void testGetNumberOfStops ()
- void testGetIdOfStop ()
- void testSetRoute ()
- void testSetId ()
- void testSetTotalDistanceString ()
- void testSetTotalDistanceDouble ()
- void testGetId ()
- void testGetEndingTown ()
- void testIsAvailable ()
- void testSetAvailable ()
- void testFormatKey ()
- void testTestCondition ()

Package Attributes

- Route route

6.18.1 Member Function Documentation

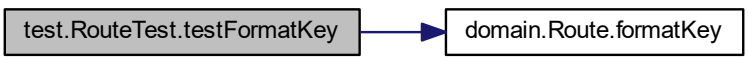
6.18.1.1 setUp()

```
void test.RouteTest.setUp ( ) throws Exception
```

6.18.1.2 testFormatKey()

```
void test.RouteTest.testFormatKey ( )
```

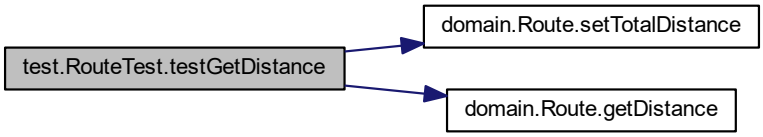
Here is the call graph for this function:



6.18.1.3 testGetDistance()

```
void test.RouteTest.testGetDistance ( )
```

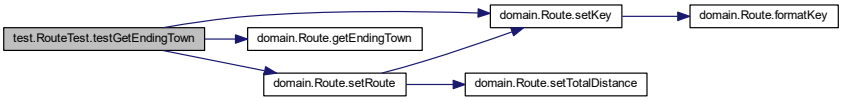
Here is the call graph for this function:



6.18.1.4 testGetEndingTown()

```
void test.RouteTest.testGetEndingTown ( )
```

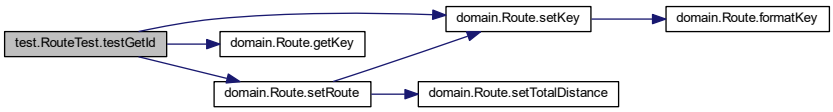
Here is the call graph for this function:



6.18.1.5 testGetId()

```
void test.RouteTest.testGetId ( )
```

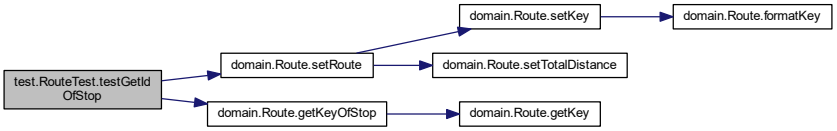
Here is the call graph for this function:



6.18.1.6 testGetIdOfStop()

```
void test.RouteTest.testGetIdOfStop ( )
```

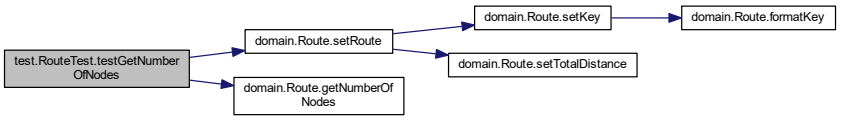
Here is the call graph for this function:



6.18.1.7 testGetNumberOfNodes()

```
void test.RouteTest.testGetNumberOfNodes ( )
```

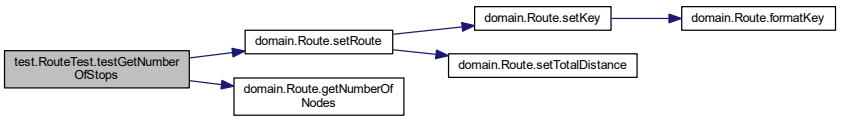
Here is the call graph for this function:



6.18.1.8 testGetNumberOfStops()

```
void test.RouteTest.testGetNumberOfStops ( )
```

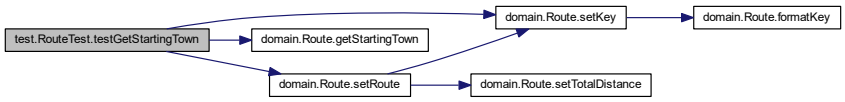
Here is the call graph for this function:



6.18.1.9 testGetStartingTown()

```
void test.RouteTest.testGetStartingTown ( )
```

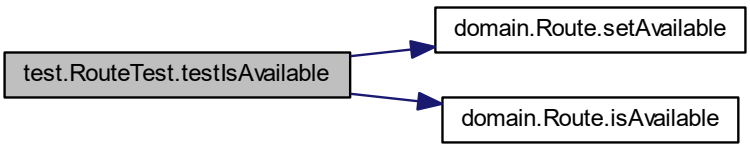
Here is the call graph for this function:



6.18.1.10 testIsAvailable()

```
void test.RouteTest.testIsAvailable ( )
```

Here is the call graph for this function:



6.18.1.11 testRoute()

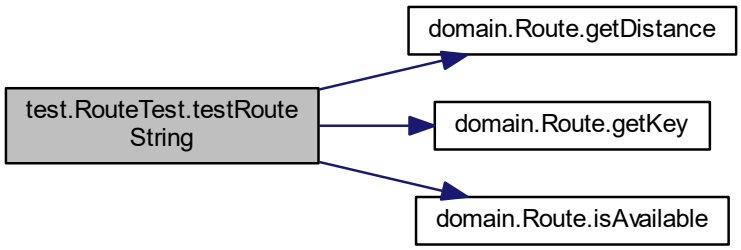
```
void test.RouteTest.testRoute ( )
```

Here is the call graph for this function:

6.18.1.12 testRouteString()

```
void test.RouteTest.testRouteString ( )
```

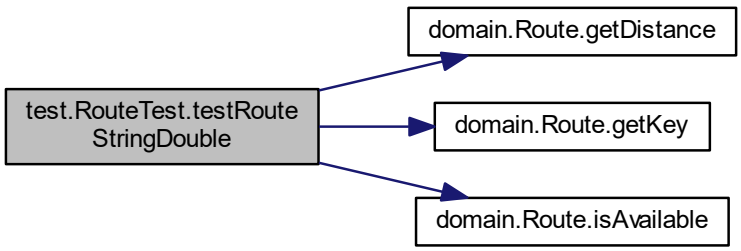
Here is the call graph for this function:



6.18.1.13 testRouteStringDouble()

```
void test.RouteTest.testRouteStringDouble ( )
```

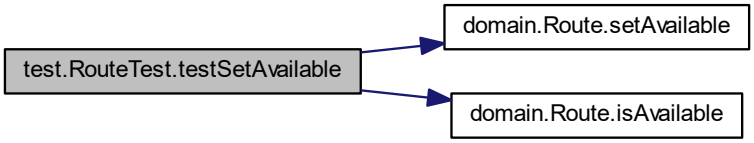
Here is the call graph for this function:



6.18.1.14 testSetAvailable()

```
void test.RouteTest.testSetAvailable ( )
```

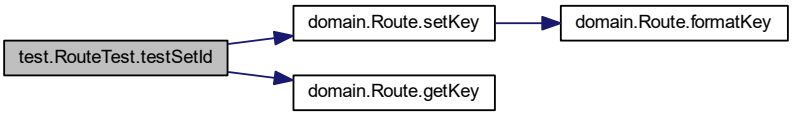
Here is the call graph for this function:



6.18.1.15 testSetId()

```
void test.RouteTest.testSetId ( )
```

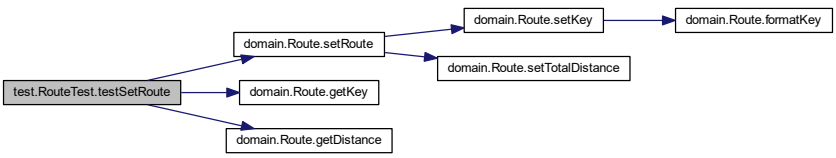
Here is the call graph for this function:



6.18.1.16 testSetRoute()

```
void test.RouteTest.testSetRoute ( )
```

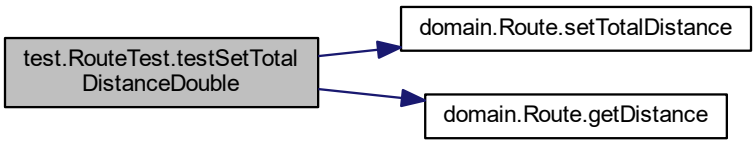
Here is the call graph for this function:



6.18.1.17 testSetTotalDistanceDouble()

```
void test.RouteTest.testSetTotalDistanceDouble ( )
```

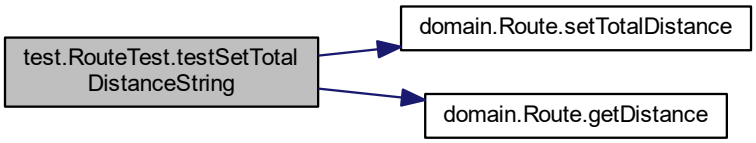
Here is the call graph for this function:



6.18.1.18 testSetTotalDistanceString()

```
void test.RouteTest.testSetTotalDistanceString ( )
```

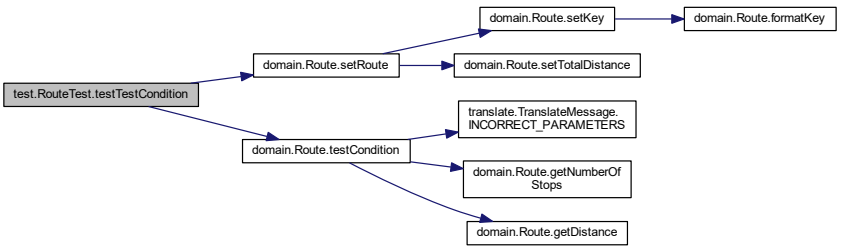
Here is the call graph for this function:



6.18.1.19 testTestCondition()

```
void test.RouteTest.testTestCondition ( )
```

Here is the call graph for this function:



6.18.2 Member Data Documentation

6.18.2.1 route

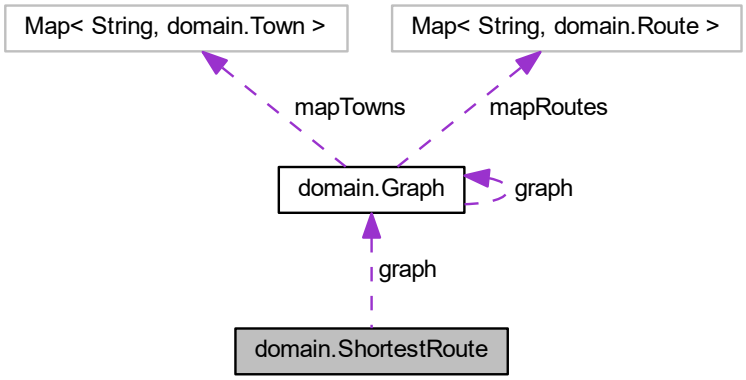
```
Route test.RouteTest.route  [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/RouteTest.java

6.19 domain.ShortestRoute Class Reference

Collaboration diagram for domain.ShortestRoute:



Public Member Functions

- Map< String,Route[ ]> getShortestRoute ()
- Route [ ] getShortestRoute (Route trip)

Package Attributes

- Graph graph = Graph.create()

6.19.1 Member Function Documentation

6.19.1.1 getShortestRoute() [1/2]

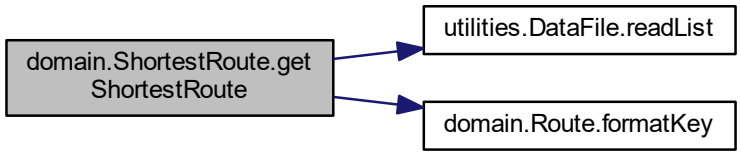
```
Map<String ,Route[]> domain.ShortestRoute.getShortestRoute ( )
```

Retorna uma lista das rotas mais curtas para cada viagem(rota) com entrada no arquivo input.txt

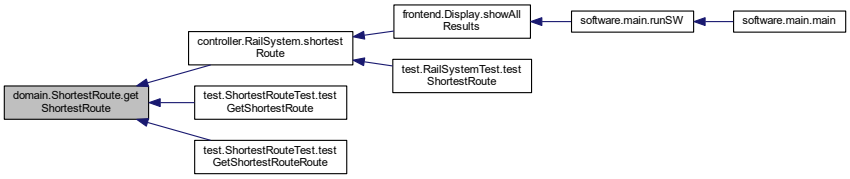
Returns

Lista de rotas mais curtas para cada viagem(rota)

Here is the call graph for this function:



Here is the caller graph for this function:



6.19.1.2 getShortestRoute() [2/2]

```
Route [] domain.ShortestRoute.getShortestRoute (
            Route trip )
```

Retorna uma lista das rotas mais curtas para uma viagem(rota)

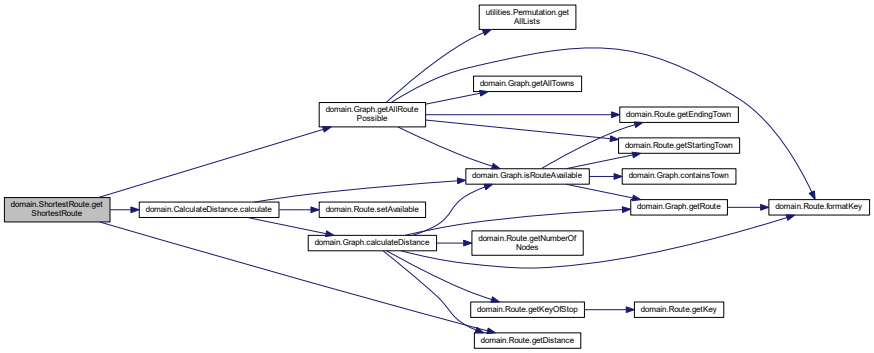
Parameters

trip	key de uma viagem(rota) que se deseja solicitar as rotas mais curtas

Returns

Lista de rotas mais curtas

Here is the call graph for this function:



6.19.2 Member Data Documentation

6.19.2.1 graph

```
Graph domain.ShortestRoute.graph = Graph.create()  [package]
```

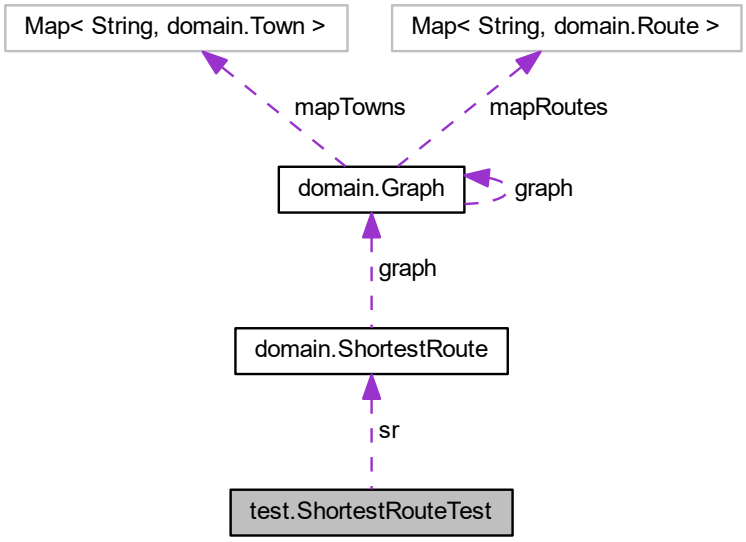
Rotas disponiveis no sistema

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/domain/ShortestRoute.java

6.20 test.ShortestRouteTest Class Reference

Collaboration diagram for test.ShortestRouteTest:



Public Member Functions

- void setUp () throws Exception
- void testGetShortestRoute ()
- void testGetShortestRouteRoute ()

Package Attributes

- ShortestRoute sr

6.20.1 Member Function Documentation

6.20.1.1 setUp()

```
void test.ShortestRouteTest.setUp ( ) throws Exception
```

Here is the call graph for this function:

6.20.1.2 testGetShortestRoute()

```
void test.ShortestRouteTest.testGetShortestRoute ( )
```

Here is the call graph for this function:

6.20.1.3 testGetShortestRouteRoute()

```
void test.ShortestRouteTest.testGetShortestRouteRoute ( )
```

Here is the call graph for this function:

6.20.2 Member Data Documentation

6.20.2.1 sr

```
ShortestRoute test.ShortestRouteTest.sr  [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/ShortestRouteTest.java

6.21 domain.Town Class Reference

Public Member Functions

- Town (String id)
- String getKey ()
- void setKey (String id)

Static Public Member Functions

- static String formatKey (String key_route)

Private Attributes

- String key

Static Private Attributes

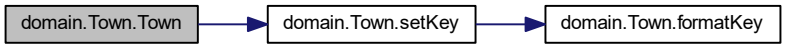
- static final int MINIMAL_SIZE_OF_ID = 1
- static final String PATTERN_ID ="[^a-zA-Z]"

6.21.1 Constructor & Destructor Documentation

6.21.1.1 Town()

```
domain.Town.Town (
            String id )
```

Here is the call graph for this function:



6.21.2 Member Function Documentation

6.21.2.1 formatKey()

```
static String domain.Town.formatKey (
            String key_route )  [static]
```

Formata uma string para o padrao do key de casa

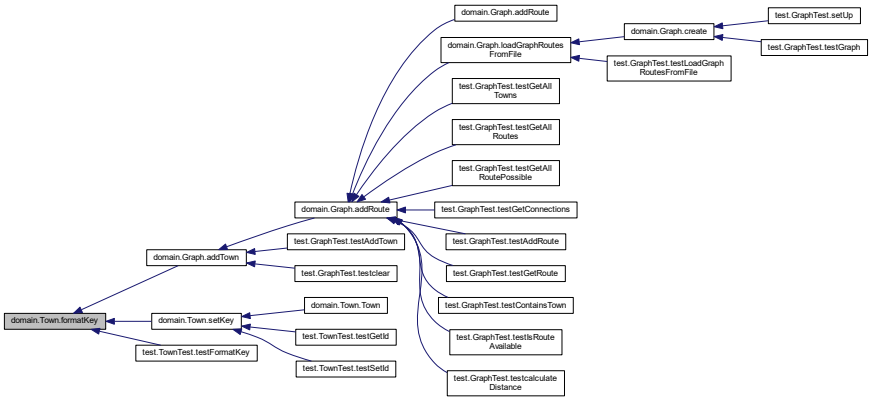
Parameters

key_route	key a ser formatado

Returns

string formatada

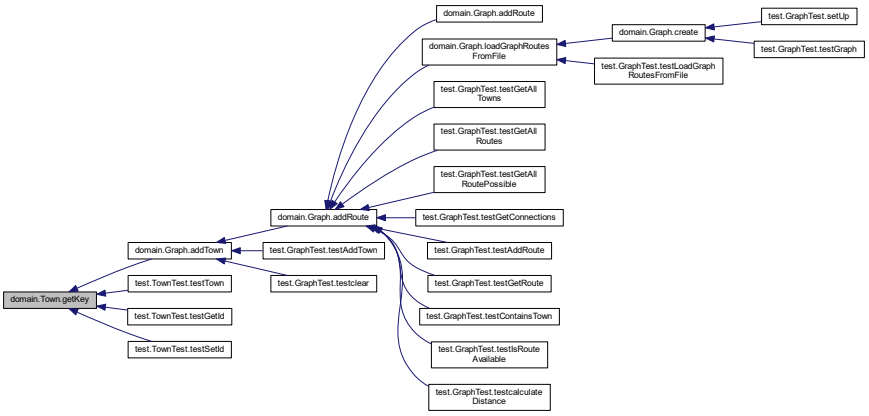
Here is the caller graph for this function:



6.21.2.2 getKey()

```
String domain.Town.getKey ( )
```

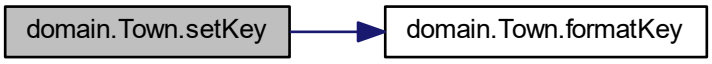
Here is the caller graph for this function:



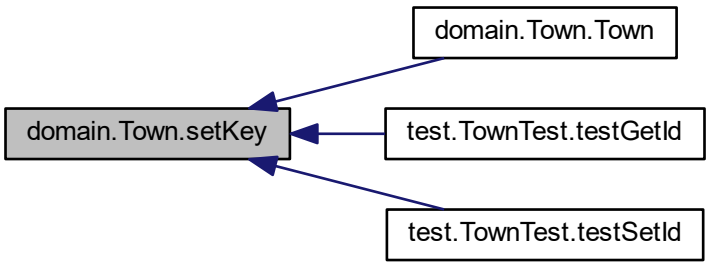
6.21.2.3 setKey()

```
void domain.Town.setKey (
            String id )
```

Here is the call graph for this function:



Here is the caller graph for this function:



6.21.3 Member Data Documentation

6.21.3.1 key

```
String domain.Town.key  [private]
```

Identificador usado nos maps

6.21.3.2 MINIMAL_SIZE_OF_ID

```
final int domain.Town.MINIMAL_SIZE_OF_ID = 1  [static], [private]
```

6.21.3.3 PATTERN_ID

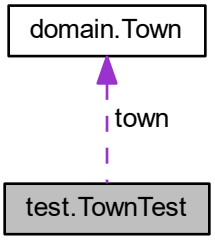
```
final String domain.Town.PATTERN_ID ="[^a-zA-Z]"  [static], [private]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/domain/Town.java

6.22 test.TownTest Class Reference

Collaboration diagram for test.TownTest:



Public Member Functions

- void setUp () throws Exception
- void testTown ()
- void testGetId ()
- void testSetId ()
- void testFormatKey ()

Package Attributes

- Town town

6.22.1 Member Function Documentation

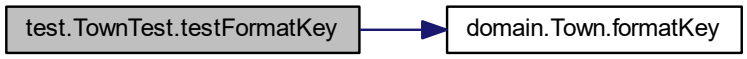
6.22.1.1 setUp()

```
void test.TownTest.setUp ( ) throws Exception
```

6.22.1.2 testFormatKey()

```
void test.TownTest.testFormatKey ( )
```

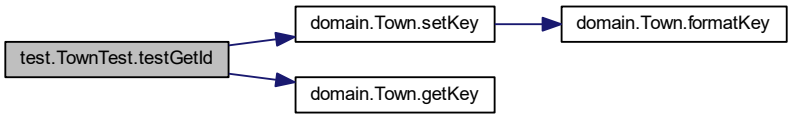
Here is the call graph for this function:



6.22.1.3 testGetId()

```
void test.TownTest.testGetId ( )
```

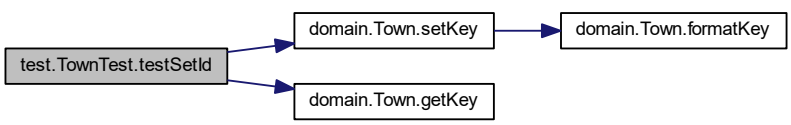
Here is the call graph for this function:



6.22.1.4 testSetId()

```
void test.TownTest.testSetId ( )
```

Here is the call graph for this function:



6.22.1.5 testTown()

```
void test.TownTest.testTown ( )
```

Here is the call graph for this function:

6.22.2 Member Data Documentation

6.22.2.1 town

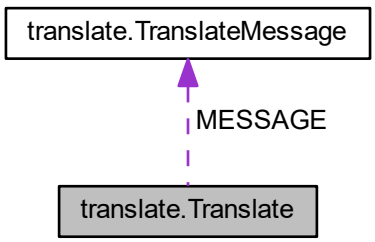
```
Town test.TownTest.town  [package]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/test/TownTest.java

6.23 translate.Translate Class Reference

Collaboration diagram for translate.Translate:



Static Public Attributes

- static final TranslateMessage MESSAGE = new PtBR()

6.23.1 Member Data Documentation

6.23.1.1 MESSAGE

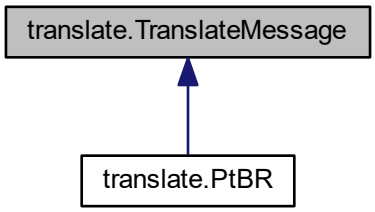
```
final TranslateMessage translate.Translate.MESSAGE = new PtBR()  [static]
```

The documentation for this class was generated from the following file:

- D:/workspace/TrainVagas/src/translate/Translate.java

6.24 translate.TranslateMessage Interface Reference

Inheritance diagram for translate.TranslateMessage:



Public Member Functions

- String TOW_NO_EXIST ()
- String ROUTE_NO_AVAILABLE ()
- String INCORRECT_PARAMETERS ()
- String FILE_NOT_FOUND ()
- String PROPERTY_NOT_FOUND ()

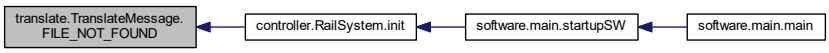
6.24.1 Member Function Documentation

6.24.1.1 FILE_NOT_FOUND()

```
String translate.TranslateMessage.FILE_NOT_FOUND ( )
```

Implemented in translate.PtBR.

Here is the caller graph for this function:

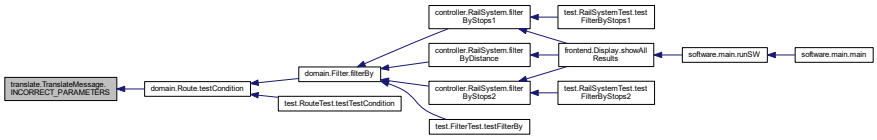


6.24.1.2 INCORRECT_PARAMETERS()

```
String translate.TranslateMessage.INCORRECT_PARAMETERS ( )
```

Implemented in translate.PtBR.

Here is the caller graph for this function:



6.24.1.3 PROPERTY_NOT_FOUND()

```
String translate.TranslateMessage.PROPERTY_NOT_FOUND ( )
```

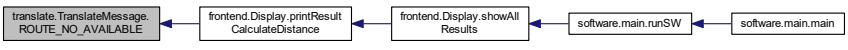
Implemented in translate.PtBR.

6.24.1.4 ROUTE_NO_AVAILABLE()

```
String translate.TranslateMessage.ROUTE_NO_AVAILABLE ( )
```

Implemented in translate.PtBR.

Here is the caller graph for this function:



6.24.1.5 TOW_NO_EXIST()

```
String translate.TranslateMessage.TOW_NO_EXIST ( )
```

Implemented in translate.PtBR.

The documentation for this interface was generated from the following file:

- D:/workspace/TrainVagas/src/translate/TranslateMessage.java

Chapter 7

File Documentation

7.1 D:/workspace/TrainVagas/src/controller/RailSystem.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class controller.RailSystem

Packages

- package controller

7.1.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classe Controle intermedia a interacao entre o View(TUI) e o domain

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.2 D:/workspace/TrainVagas/src/domain/CalculateDistance.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class domain.CalculateDistance

Packages

- package domain

7.2.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Calcula as distancias das rotas indicadas no arquivo 'input.txt' na propriedade 'distance.routes'

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.3 D:/workspace/TrainVagas/src/domain/Filter.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class domain.Filter

Packages

- package domain

7.3.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Filtra as rotas indicadas no arquivo 'input.txt' na propriedade 'filtertrips[X].routes' utilizando a condicao indicada na propriedade filtertrips[1].condition

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.4 D:/workspace/TrainVagas/src/domain/Graph.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class domain.Graph

Packages

- package domain

7.4.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Gerenciamento dos containners de cidade e rotas existentes entre as cidades As rotas sao carregadas via o arquivo 'input.txt' propriedade 'graph.routes' e baseado nelas sao mapeadas as cidades

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.5 D:/workspace/TrainVagas/src/domain/Route.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class domain.Route

Packages

- package domain

7.5.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Abstracao de rotas(viagens)

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.6 D:/workspace/TrainVagas/src/domain/ShortestRoute.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class domain.ShortestRoute

Packages

- package domain

7.6.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Identifica as rotas mais curtas para as viagens(rotas) que foram indicada no arquivo input.txt na propriedade shourtestRouter.trip

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.7 D:/workspace/TrainVagas/src/domain/Town.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class domain.Town

Packages

- package domain

7.7.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Abstracao de cidades

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.8 D:/workspace/TrainVagas/src/frontend/Display.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class frontend.Display

Packages

- package frontend

7.8.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Responsavel pelo View - Text User interface(TUI)

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1 Recebe o conteudo a ser mostrado atraves de arrays do tipo roto

Layout do TUI

Output | Resultado | Detalhes #1 | 9 | [ABC] #2 | 5 | [AD] #3 | 13 | [ADC] #4 | 22 | [AEBCD] #5 | Rota nao disponivel | [AED] #6 | 2 | [CDC] [CEBC] #7 | 3 | [ABCDC] [ADCDC] [ADEBC] #8 | 9 | [ABC] #9 | 9 | [BCEB] #10 | 7 | [CDC] [CEBC] [CEBCDC] [CDCEBC] [CDEBC] [CEBCEBC] [CEBCEBCEBC]

7.9 D:/workspace/TrainVagas/src/software/main.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class software.main

Packages

- package software

7.9.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Metodo main do software estruturado em tres partes

```
statupSW()      Realiza todas as inicializacoes necessarias
runSW()         Executa a aplicacao principal
shutdownSW()    Finaliza o software
```

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

Parameters

none	

7.10 D:/workspace/TrainVagas/src/test/CalculateDistanceTest.java File Reference

Classes

- class test.CalculateDistanceTest

Packages

- package test

7.11 D:/workspace/TrainVagas/src/test/DataFileTest.java File Reference

Classes

- class test.DataFileTest

Packages

- package test

7.12 D:/workspace/TrainVagas/src/test/FilterTest.java File Reference

Classes

- class test.FilterTest

Packages

- package test

7.13 D:/workspace/TrainVagas/src/test/GraphTest.java File Reference

Classes

- class test.GraphTest

Packages

- package test

7.14 D:/workspace/TrainVagas/src/test/PermutationTest.java File Reference

Classes

- class test.PermutationTest

Packages

- package test

7.15 D:/workspace/TrainVagas/src/test/RailSystemTest.java File Reference

Classes

- class test.RailSystemTest

Packages

- package test

7.16 D:/workspace/TrainVagas/src/test/RouteTest.java File Reference

Classes

- class test.RouteTest

Packages

- package test

7.17 D:/workspace/TrainVagas/src/test/ShortestRouteTest.java File Reference

Classes

- class test.ShortestRouteTest

Packages

- package test

7.18 D:/workspace/TrainVagas/src/test/TownTest.java File Reference

Classes

- class test.TownTest

Packages

- package test

7.19 D:/workspace/TrainVagas/src/translate/PtBR.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- class translate.PtBR

Packages

- package translate

7.19.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Textos em protugues

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

Gerencia os textos traduzidos

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.20 D:/workspace/TrainVagas/src/translate/Translate.java File Reference

Classes

- class translate.Translate

Packages

- package translate

7.21 D:/workspace/TrainVagas/src/translate/TranslateMessage.java File Reference

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Classes

- interface translate.TranslateMessage

Packages

- package translate

7.21.1 Detailed Description

Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos.

Interface para acesso aos textos traduzidos

Authors

Jefferson Alves

Date

24.04.2017

Version

0.1

7.22 D:/workspace/TrainVagas/src/utilities/DataFile.java File Reference

Classes

- class utilities.DataFile

Packages

- package utilities

7.23 D:/workspace/TrainVagas/src/utilities/FileProperty.java File Reference

Classes

- enum utilities.FileProperty

Packages

- package utilities

7.24 D:/workspace/TrainVagas/src/utilities/Permutation.java File Reference

Classes

- class utilities.Permutation

Packages

- package utilities

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