

TrainVagas

0.1

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Namespace Index

1.1 Packages

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utilities	10

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

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Software de gerenciamento das rotas para uma solucao de mobilidade sobre trilhos	111
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Chapter 5

Namespace Documentation

5.1 Package controller

Classes

- class [RailSystem](#)

5.2 Package domain

Classes

- class [CalculateDistance](#)
- class [Filter](#)
- class [Graph](#)
- class [Route](#)
- class [ShortestRoute](#)
- class [Town](#)

5.3 Package frontend

Classes

- class [Display](#)

5.4 Package software

Classes

- class [main](#)

5.5 Package test

Classes

- class [CalculateDistanceTest](#)
- class [DataFileTest](#)
- class [FilterTest](#)
- class [GraphTest](#)
- class [PermutationTest](#)
- class [RailSystemTest](#)
- class [RouteTest](#)
- class [ShortestRouteTest](#)
- class [TownTest](#)

5.6 Package translate

Classes

- class [PtBR](#)
- class [Translate](#)
- interface [TranslateMessage](#)

5.7 Package utilities

Classes

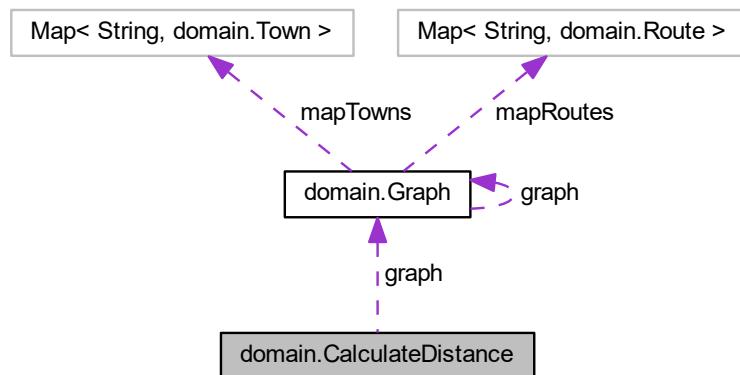
- class [DataFile](#)
- enum [FileProperty](#)
- class [Permutation](#)

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)

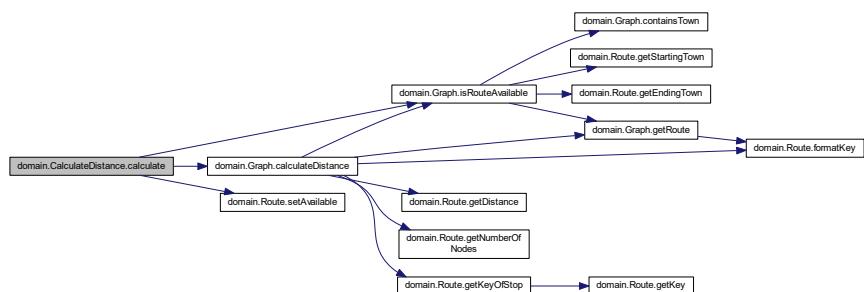
Parameters

<i>trips</i>	lista de key das rotas(viagens) para o calculo da distancia
--------------	---

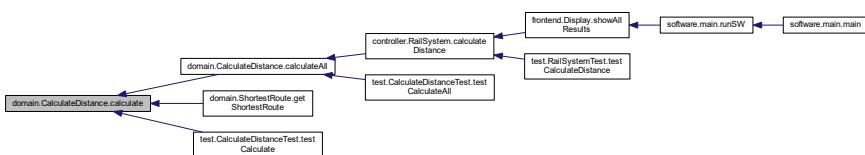
Returns

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()

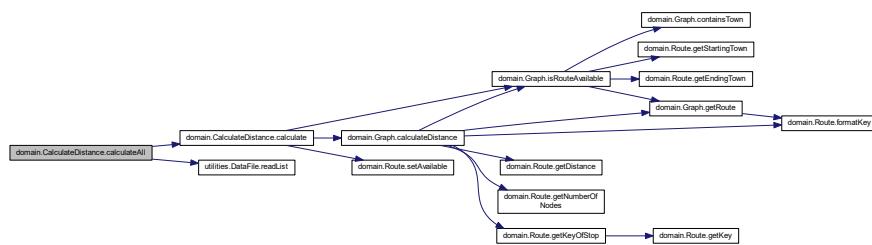
```
Route [] domain.CalculateDistance.calculateAll ()
```

Baseada na lista de rotas contida no arquivo 'input.txt', na propriedade 'distance.routes', calcula a distância de cada uma. Rotas não possíveis serão setadas como não existente através da chamada do método `setAvailable(false)` e o valor da distância será 0.0

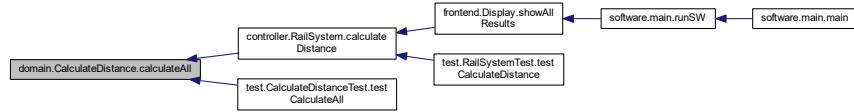
Returns

Retorna uma lista de rotas com sua respectiva distância calculada e com a indicação se é uma rota possível

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]
```

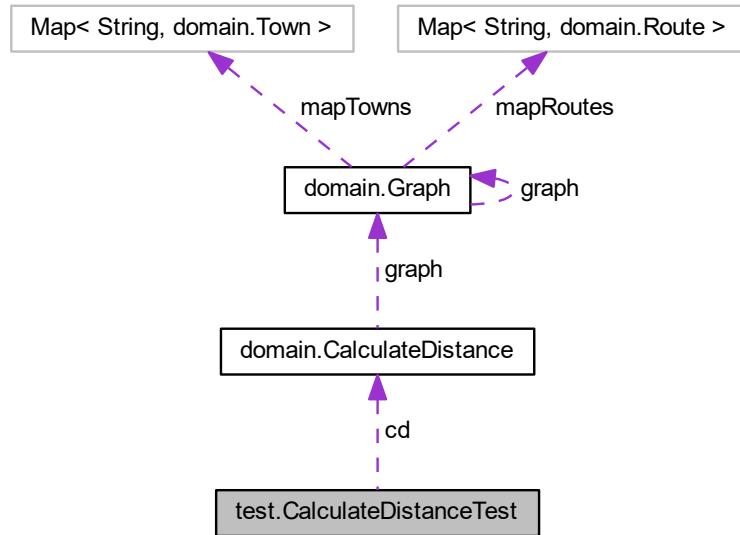
Rotas disponíveis no sistema

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
```

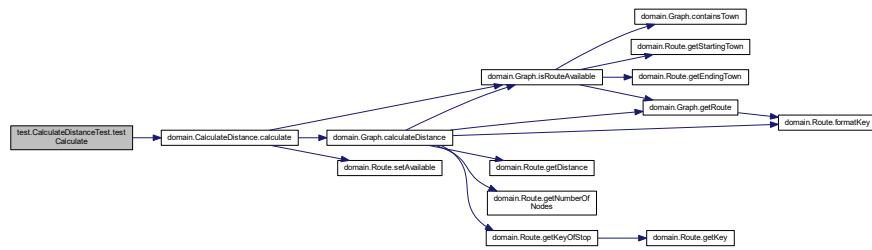
Here is the call graph for this function:



6.2.1.2 testCalculate()

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

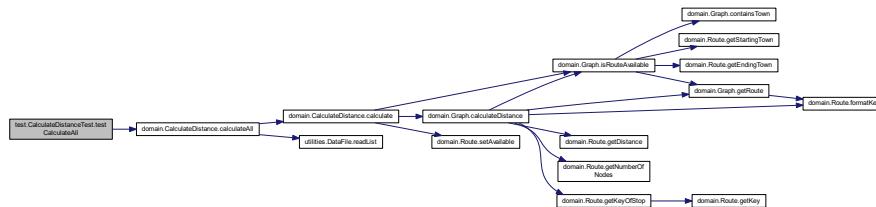
Here is the call graph for this function:



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

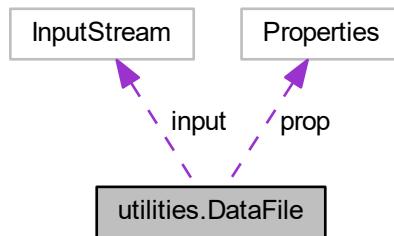
[CalculateDistance](#) test.CalculateDistanceTest.cd [package]

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

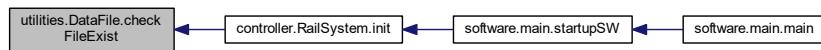
- static final String **PATTERN_LIST** = "[^a-zA-Z0-9.]"
- static final String **PATTERN_OPERAND** = "[^a-zA-Z,]"
- static final String **PATTERN_DOUBLE** = "[^0-9.]"
- static final String **PATTERN_INTEGER** = "[^0-9]"
- static final String **PATTERN_CONDITION** = "[^<>=!]"
- static final String **SEPARATOR**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

6.3.1 Member Function Documentation

6.3.1.1 checkFileExist()

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

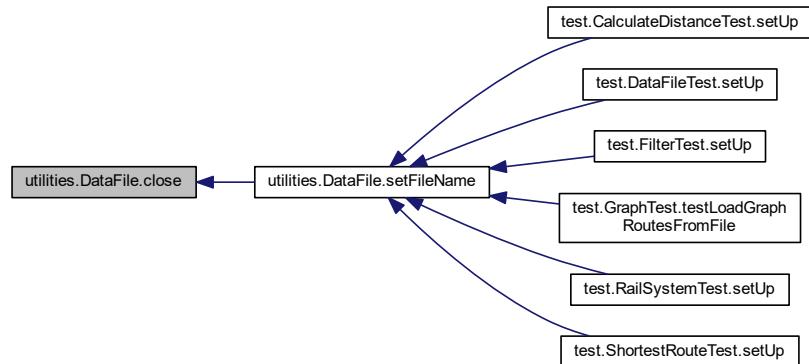
Here is the caller graph for this function:



6.3.1.2 close()

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

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



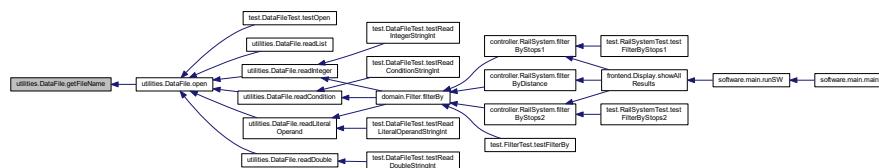
6.3.1.3 getFileName()

```
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

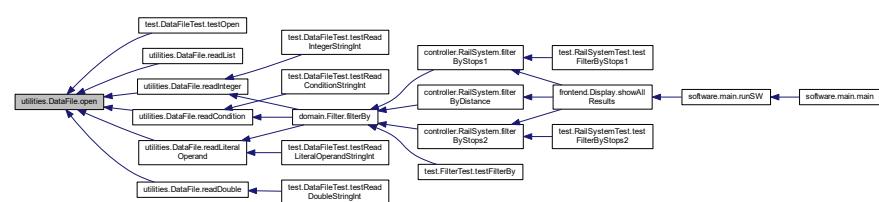
Returns

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

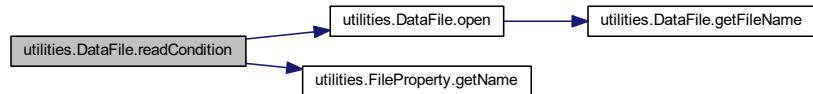
Parameters

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

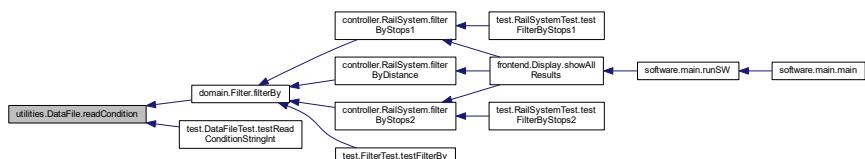
Returns

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

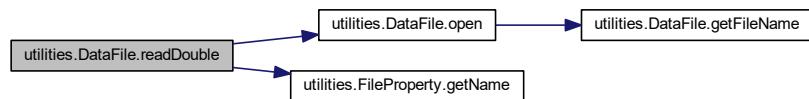
<i>property</i>	propriedade onde o double sera buscado
<i>index_filter</i>	index identifica qual propriedade dentro do array que existe no arquivo

Generated by Doxygen

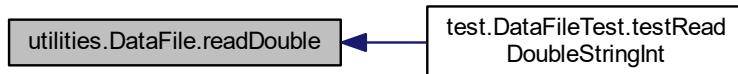
Returns

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

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

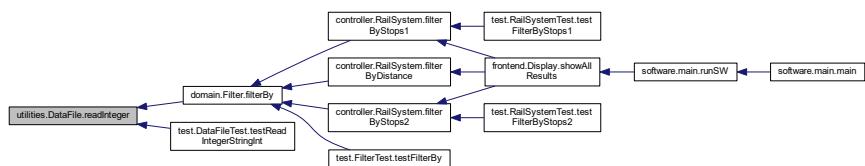
Returns

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

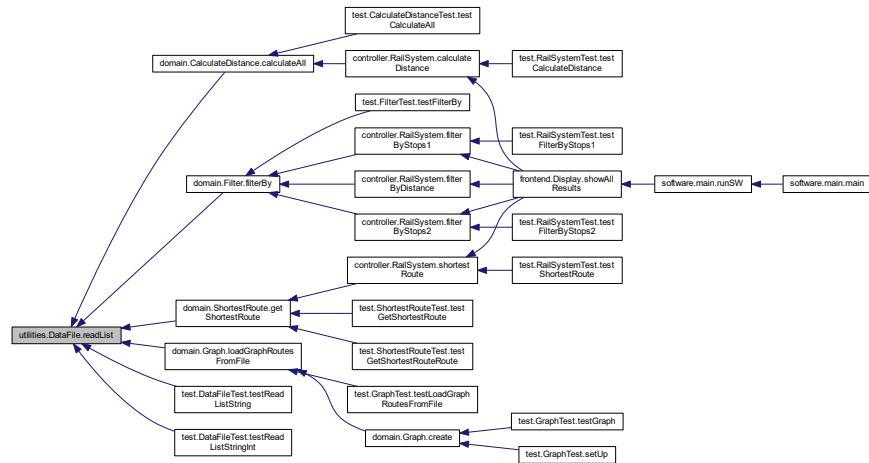
Parameters

<code>property</code>	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

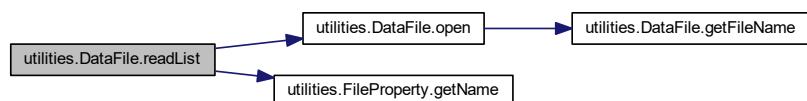
Parameters

<i>property</i>	propriedade onde o array de string sera buscado
<i>index_filter</i>	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

<code>property</code>	propriedade a ser lida
-----------------------	------------------------

Returns

retorna o operando, na forma literal, lido do arquivo

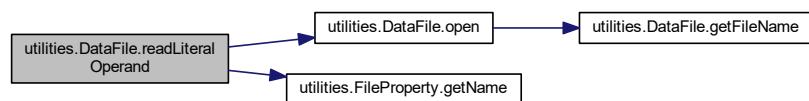
Parameters

<code>index_filter</code>	index identifica qual propriedade dentro do array que existe no arquivo
---------------------------	---

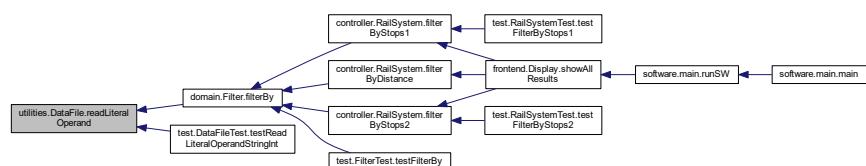
Returns

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()

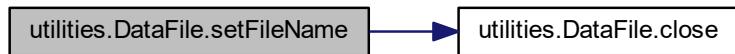
```
static void utilities.DataFile.setFileName (
    String file ) [static]
```

Configura o nome do arquivo

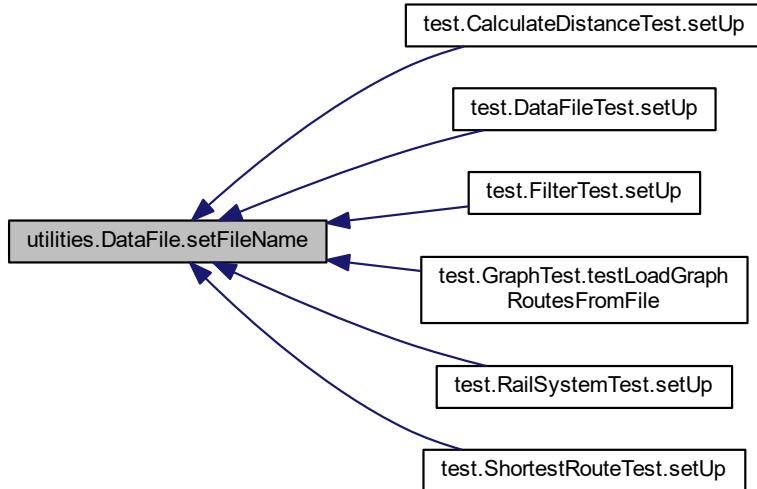
Parameters

<i>file</i>	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 ( )
```

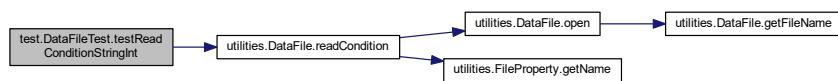
Here is the call graph for this function:



6.4.1.3 testReadConditionStringInt()

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

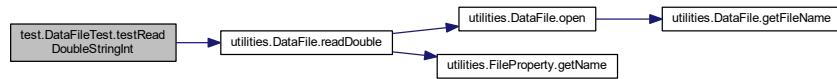
Here is the call graph for this function:



6.4.1.4 testReadDoubleStringInt()

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

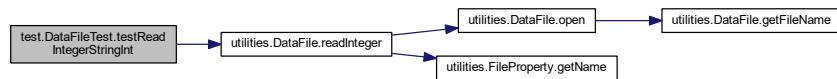
Here is the call graph for this function:



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 ( )
```

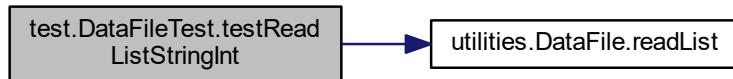
Here is the call graph for this function:



6.4.1.7 testReadListStringInt()

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

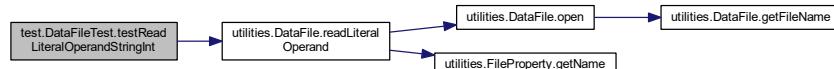
Here is the call graph for this function:



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()`

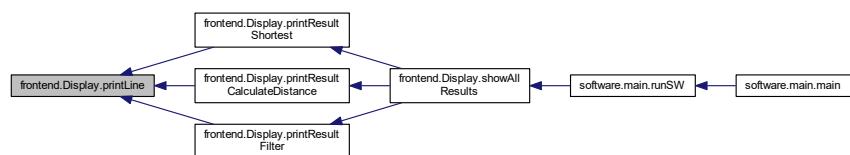
```
static void frontend.Display.printLine (
    String line ) [static], [private]
```

Imprime a linha na tela adicionando o numero da linha

Parameters

<code>line</code>	Formatada e tabulada
-------------------	----------------------

Here is the caller graph for this function:



6.5.1.3 printResultCalculateDistance()

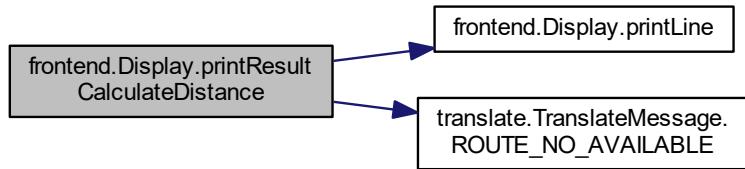
```
static void frontend.Display.printResultCalculateDistance (
    Route [] routes ) [static], [private]
```

Imprime resultado dos calculos de distancias das rotas

Parameters

<code>routes</code>	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()

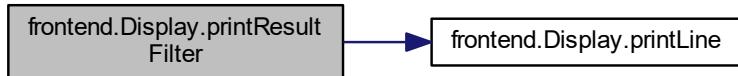
```
static void frontend.Display.printResultFilter (
    Route [] routes ) [static], [private]
```

Imprime resultados dos filtros

Parameters

<code>routes</code>	
---------------------	--

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 resultado relacionado da consulta de menores rotas

Parameters

<i>shortest</i>	Lista das menores rotas
-----------------	-------------------------

Here is the call graph for this function:



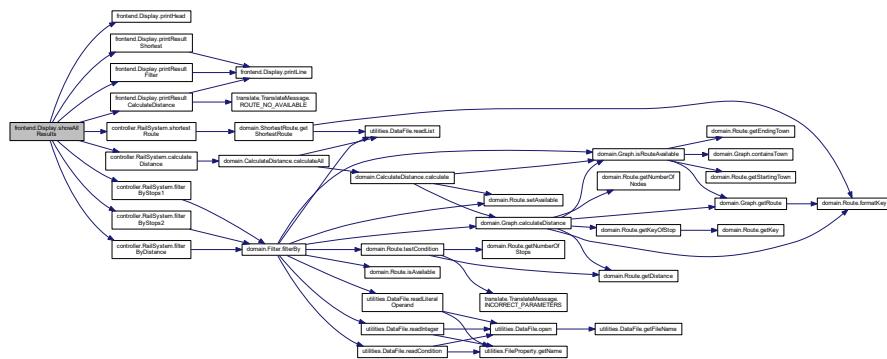
Here is the caller graph for this function:



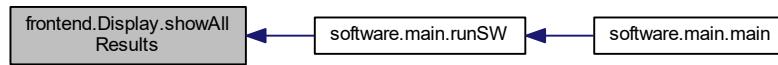
6.5.1.6 showAllResults()

```
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()

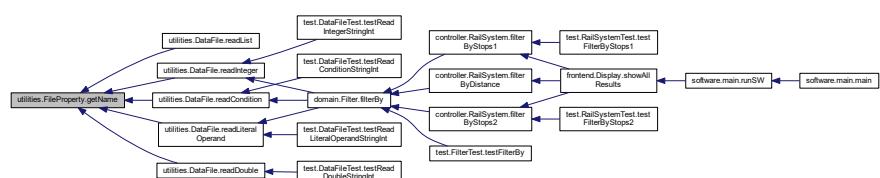
```
utilities.FileProperty.FileProperty (
    String name )
```

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 satisfazem 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

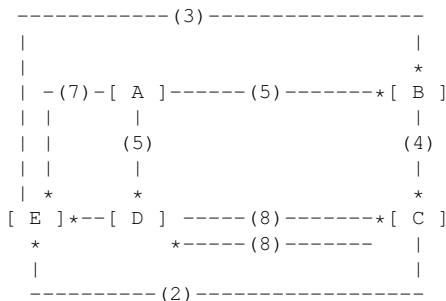
```
utilities.FileProperty.FILTER_ROUTES =("filtertrips[%d].routes")
```

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.

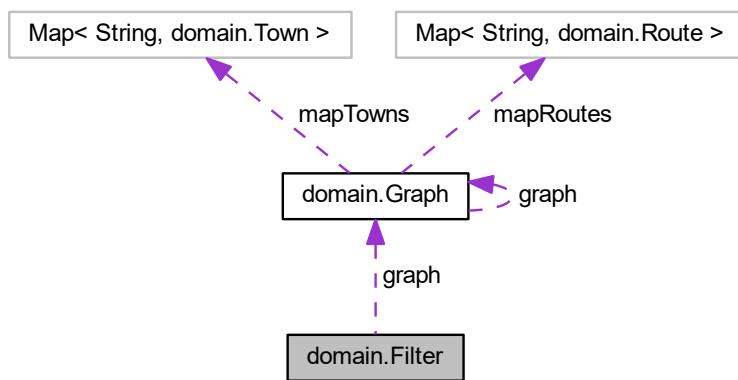
Encontra as opcoes de rotas menores(distancia) entre o ponto de partida e o de chegada Possibilidade de adiconar quantas viagens(rotas) necessarias. Rotas invalidas serao desconsideradas O hifem e opcional Separador virgula

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' satisfazem a condicão indicada em 'filtertrips[X].condition'. Condicoes permitidas: '<','>','<=','>=','==','!='. Operandos permitidos STOPS,DISTANCE. Rotas invalidas serão desconsideradas.

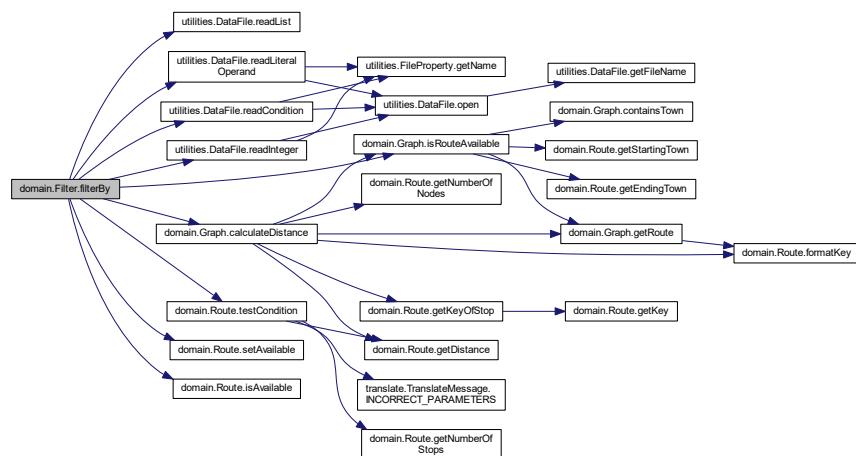
Parameters

<i>num_test</i>	indice do filtro
-----------------	------------------

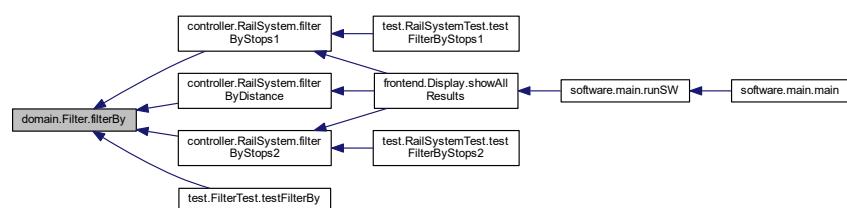
Returns

Rotas filtradas pela condicão

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]
```

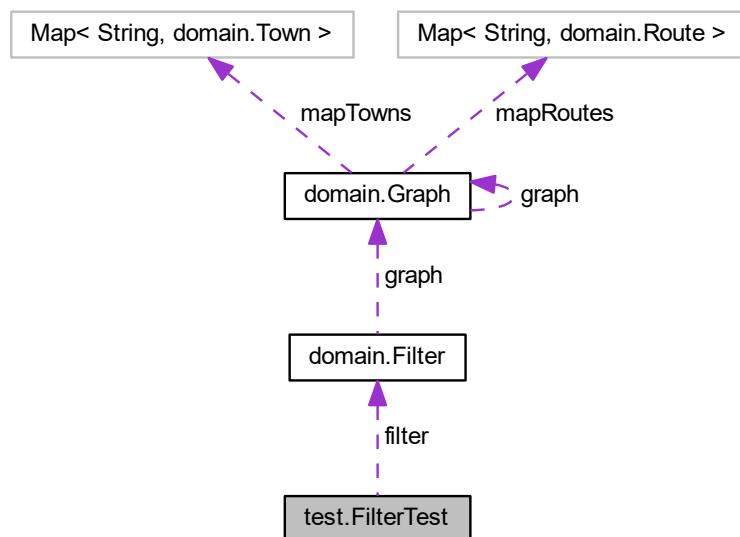
Rotas disponíveis no sistema

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
```

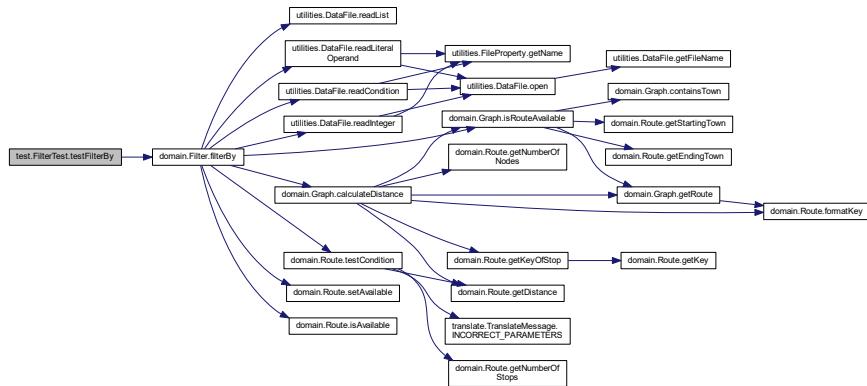
Here is the call graph for this function:



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

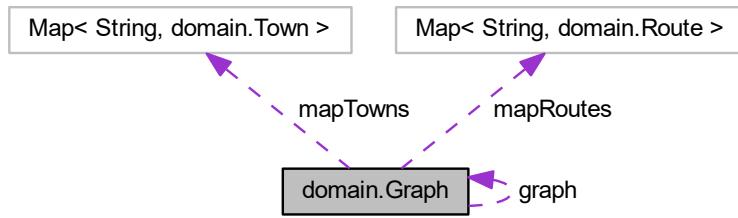
```
Filter test.FilterTest.filter [package]
```

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

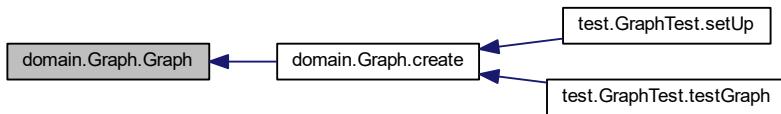
- `Map< String, Route > mapRoutes = null`
- `Map< String, Town > mapTowns = null`

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]

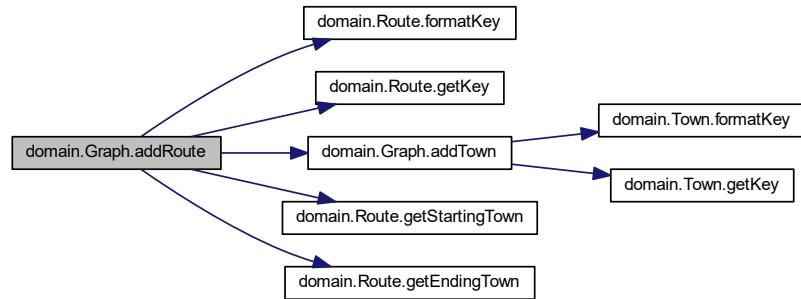
```
void domain.Graph.addRoute (
    String key_route )
```

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

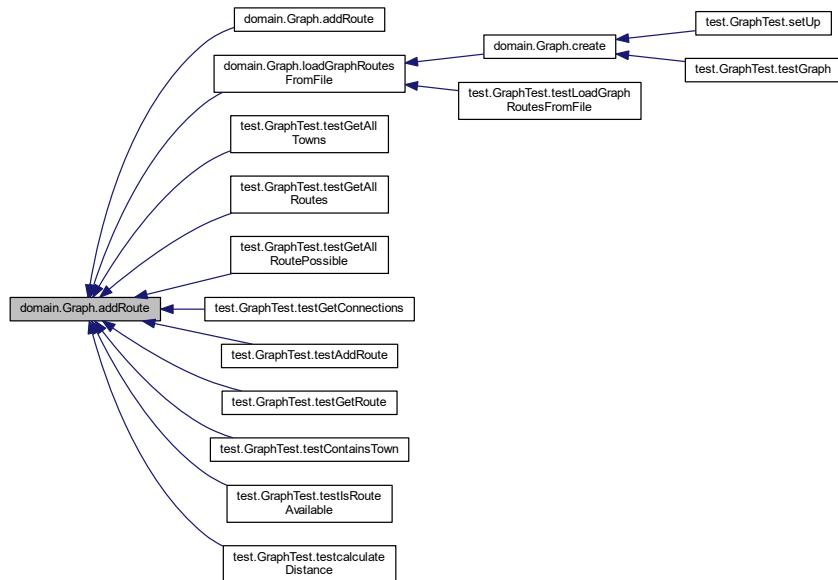
Parameters

<code>key</code>	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]

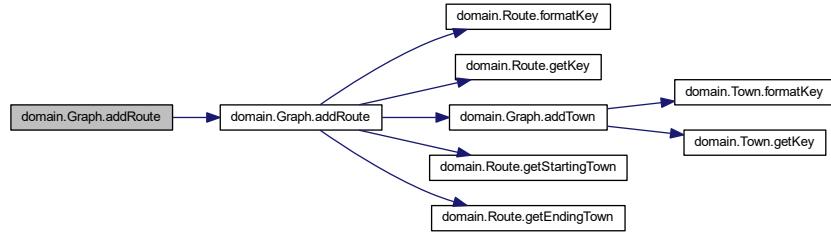
```
void domain.Graph.addRoute (
    String [ ] routes )
```

Cria e armazena no container uma lista de rotas

Parameters

<code>routes</code>	Lista dos keys para criacao das rotas
---------------------	---------------------------------------

Here is the call graph for this function:



6.9.2.3 addTown()

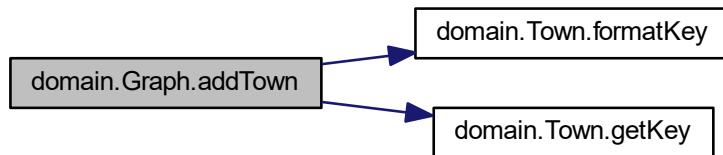
```
void domain.Graph.addTown (
    String key_town )
```

Cria e armazena no container uma cidade identificada por `key_town`

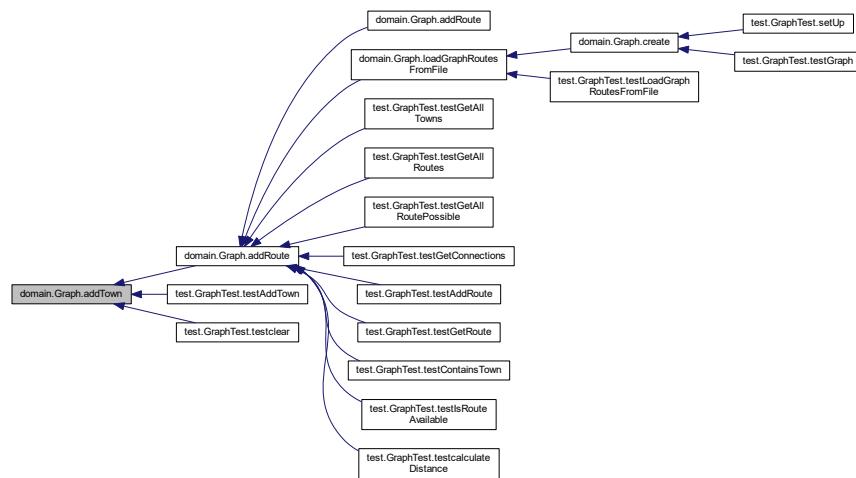
Parameters

<code>key</code>	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)

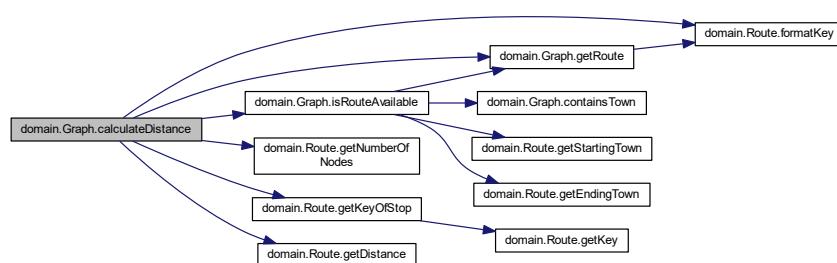
Parameters

<i>route</i>	Key da rota(viagem) que se deseja calcular a distancia
--------------	--

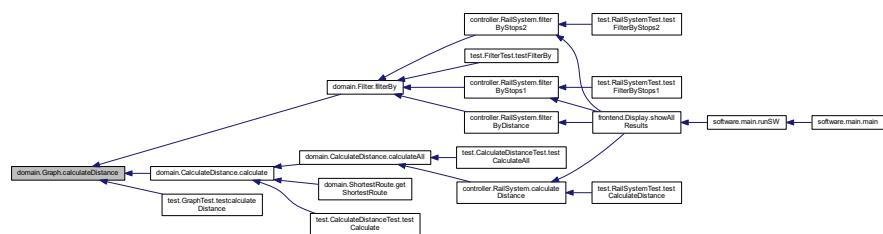
Returns

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

Here is the call graph for this function:



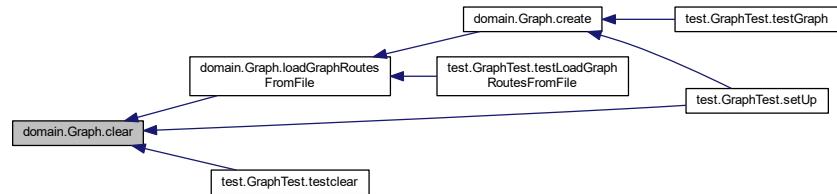
Here is the caller graph for this function:



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 containerne e valida

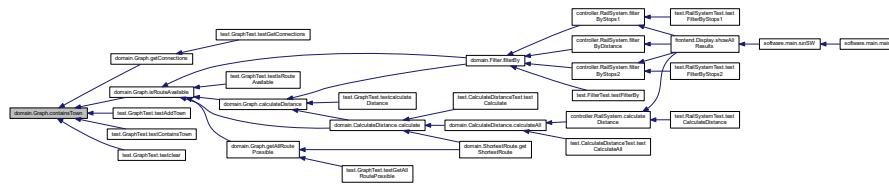
Parameters

<i>key_town</i>	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()**

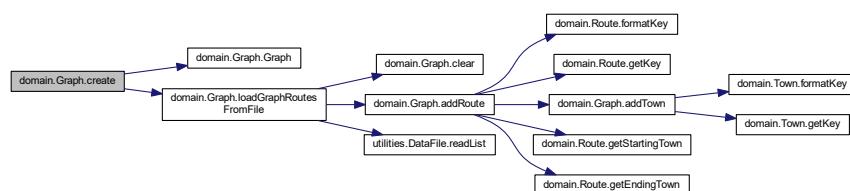
```
static synchronized Graph domain.Graph.create () [static]
```

Metodo construtor para manter um Singleton de [Graph](#).

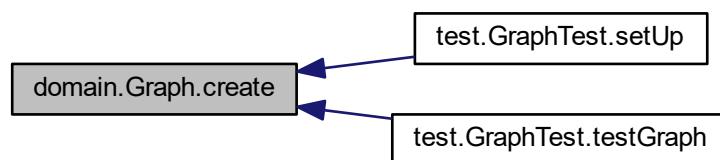
Padrao Singleton

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

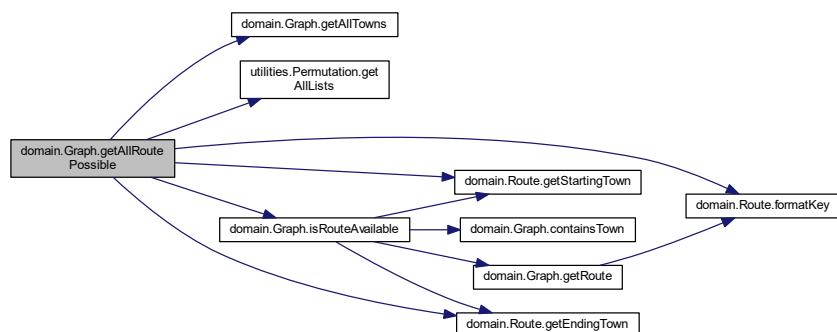
Parameters

<i>trip</i>	E a rota da viagem contendo a cidade de destino e origem da viagem
-------------	--

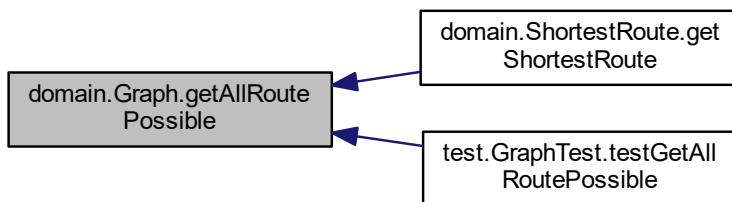
Returns

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()

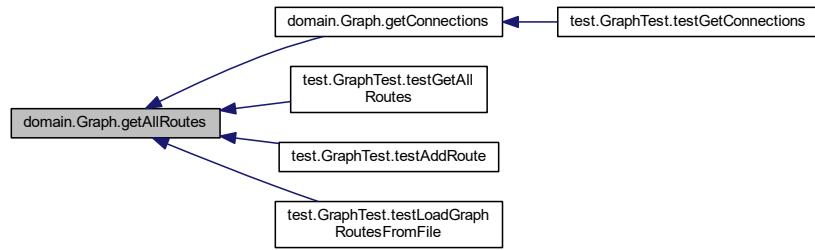
```
String [] domain.Graph.getAllRoutes ( )
```

Retorna a lista dos keys de todas as rotas disponiveis

Returns

Lista de key das rotas

Here is the caller graph for this function:



6.9.2.10 getAllTowns()

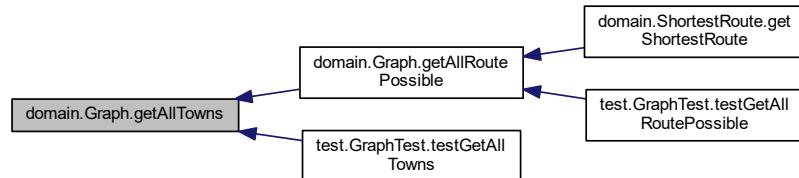
```
String [] domain.Graph.getAllTowns ( )
```

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

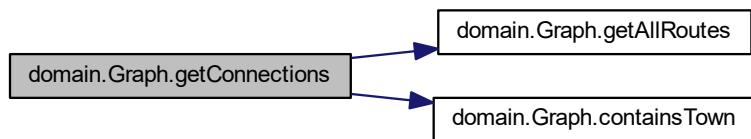
Parameters

<code>key_town</code>	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

<code>key_route</code>	Key da rota que se deseja retornar
------------------------	------------------------------------

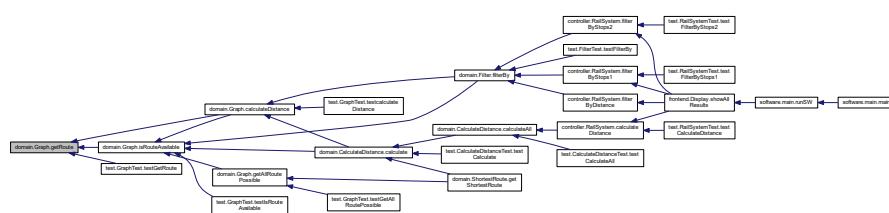
Returns

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

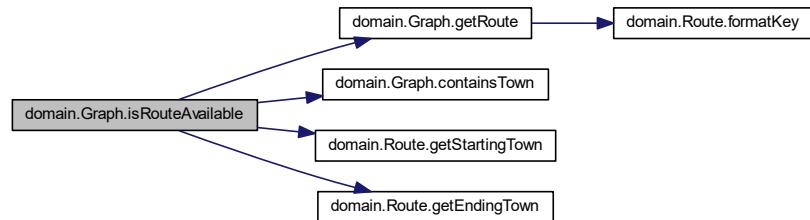
Parameters

<i>route</i>	Key da rota a ser verificado
--------------	------------------------------

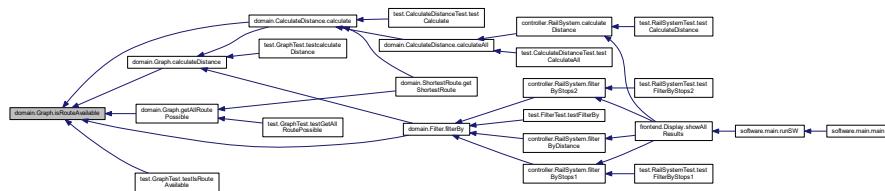
Returns

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()

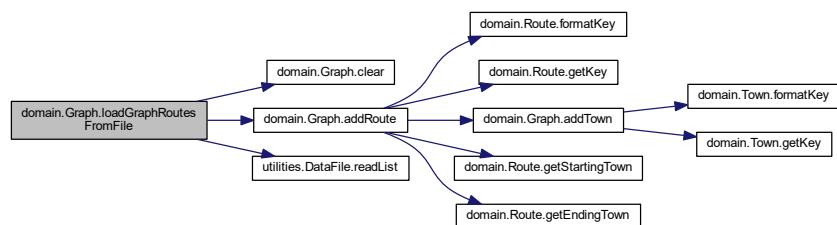
```
void domain.Graph.loadGraphRoutesFromFile ( )
```

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

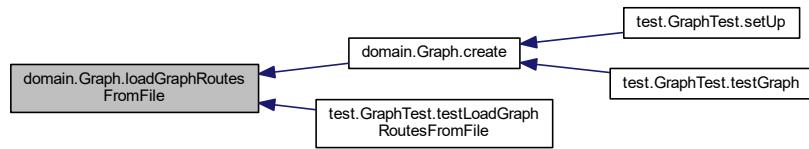
See also

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]
```

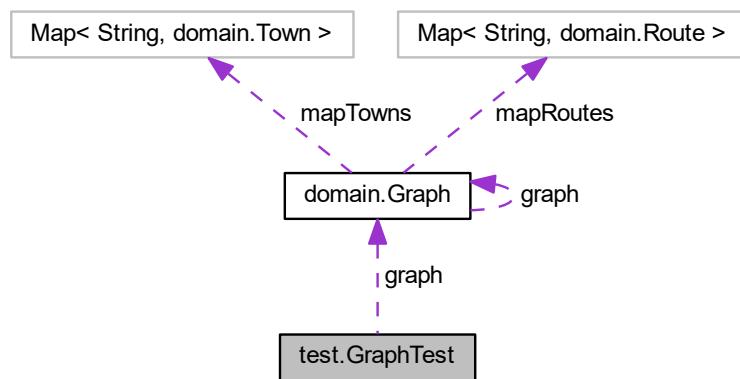
Container de cidades Formato do key String ex: 'A'

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

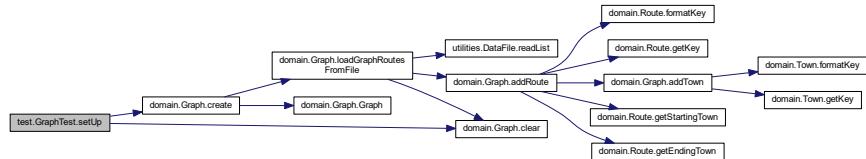
- `Graph graph`

6.10.1 Member Function Documentation

6.10.1.1 setUp()

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

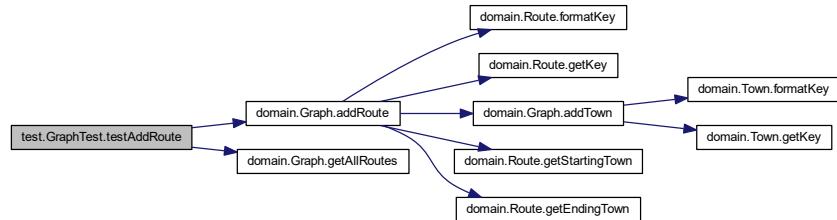
Here is the call graph for this function:



6.10.1.2 testAddRoute()

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

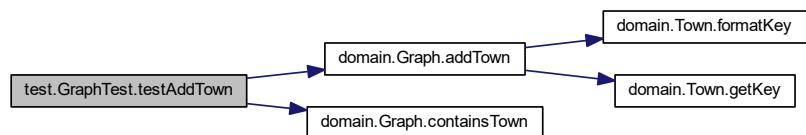
Here is the call graph for this function:



6.10.1.3 testAddTown()

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

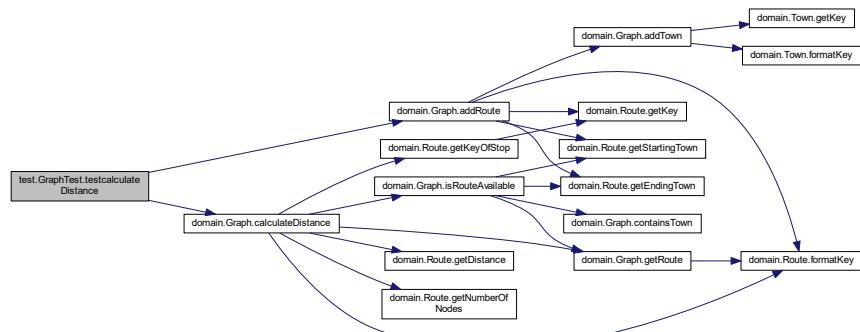
Here is the call graph for this function:



6.10.1.4 testcalculateDistance()

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

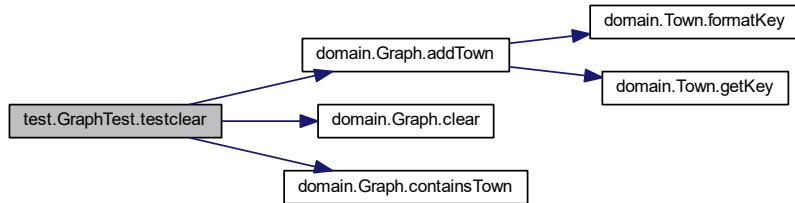
Here is the call graph for this function:



6.10.1.5 testclear()

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

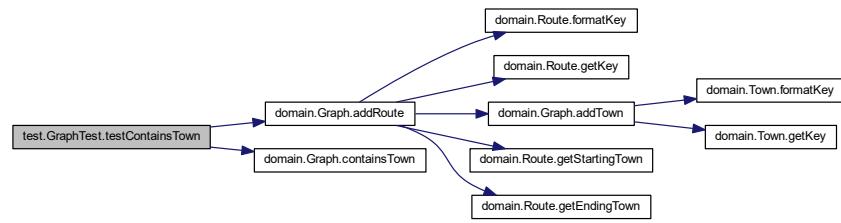
Here is the call graph for this function:



6.10.1.6 testContainsTown()

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

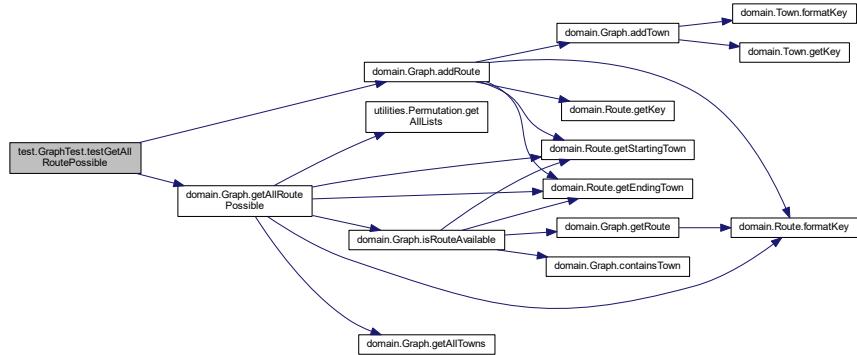
Here is the call graph for this function:



6.10.1.7 testGetAllRoutePossible()

```
void test.GraphTest.test GetAllRoutePossible( )
```

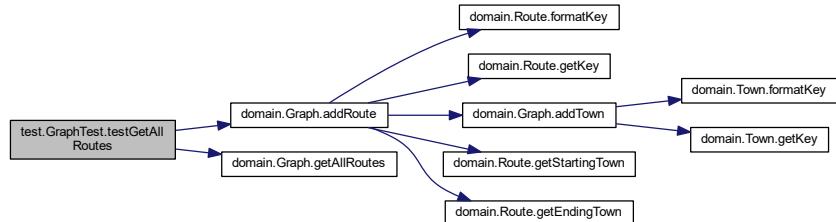
Here is the call graph for this function:



6.10.1.8 testGetAllRoutes()

```
void test.GraphTest.test GetAllRoutes( )
```

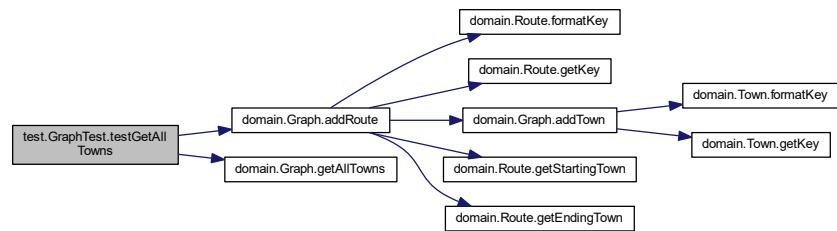
Here is the call graph for this function:



6.10.1.9 testGetAllTowns()

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

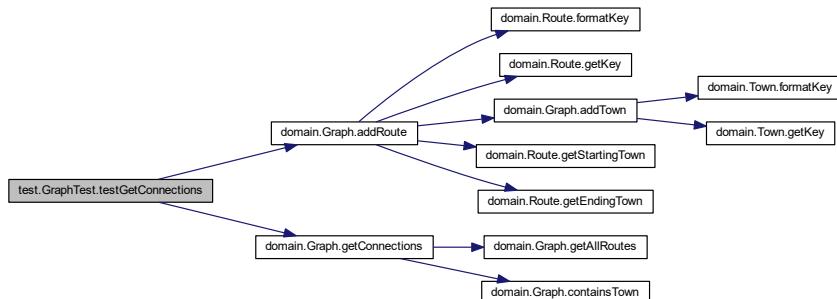
Here is the call graph for this function:



6.10.1.10 testGetConnections()

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

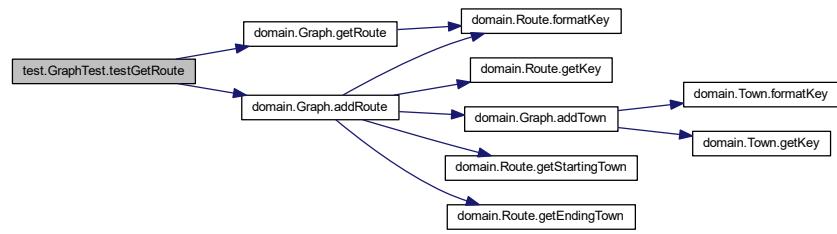
Here is the call graph for this function:



6.10.1.11 testGetRoute()

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

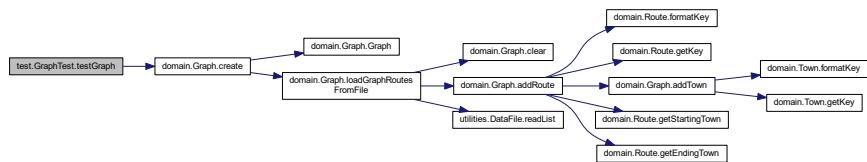
Here is the call graph for this function:



6.10.1.12 testGraph()

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

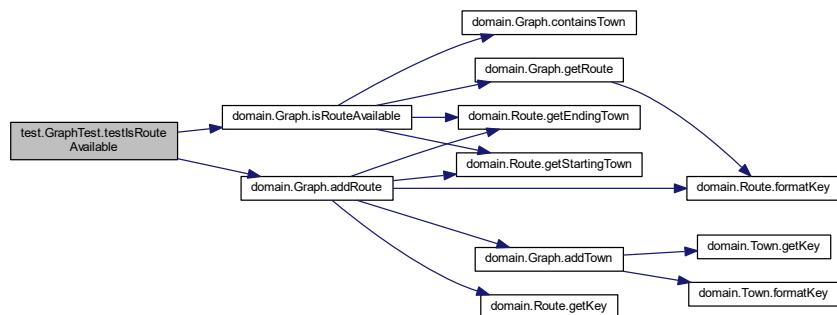
Here is the call graph for this function:



6.10.1.13 testIsRouteAvailable()

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

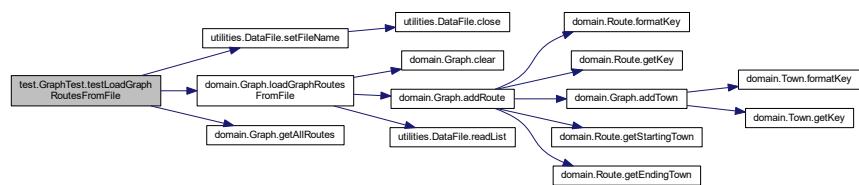
Here is the call graph for this function:



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

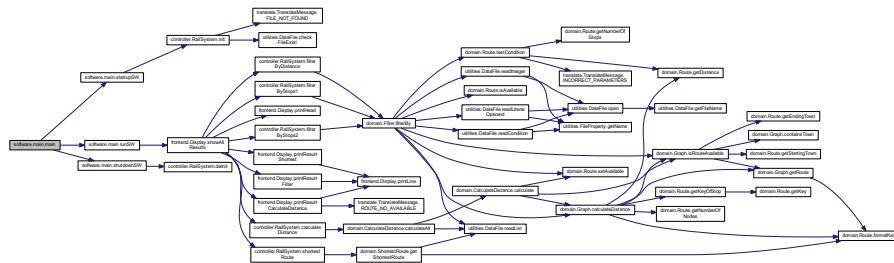
- static boolean [startupSW](#) ()
- static void [runSW](#) ()
- static void [shutdownSW](#) ()

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:

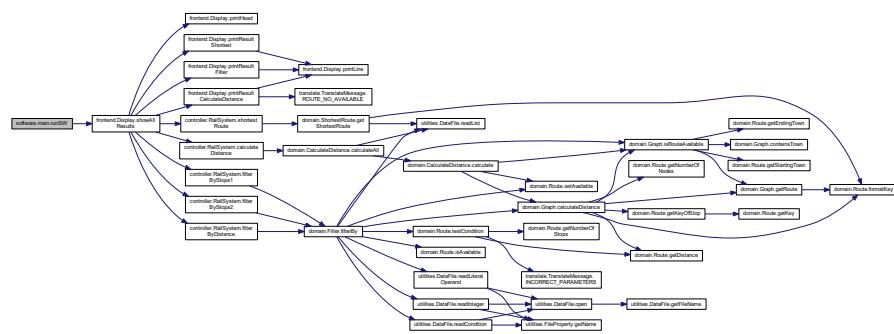


6.11.2 Member Function Documentation

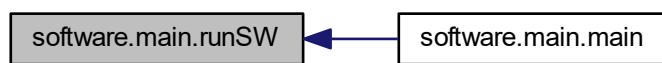
6.11.2.1 runSW()

```
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

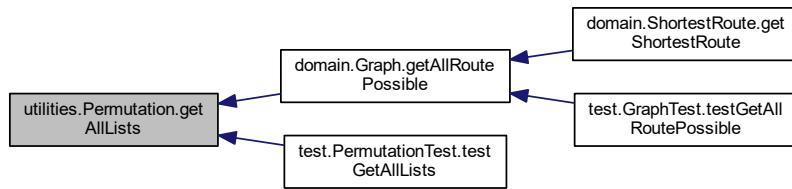
Parameters

<i>elements</i>	Lista de elementos
<i>lengthOfList</i>	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

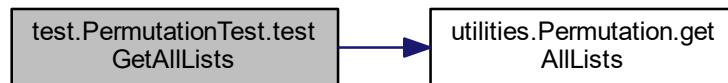
6.13.1.1 [setUp\(\)](#)

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

6.13.1.2 testGetAllLists()

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

Here is the call graph for this function:

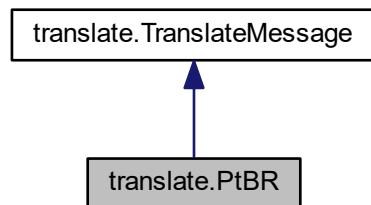


The documentation for this class was generated from the following file:

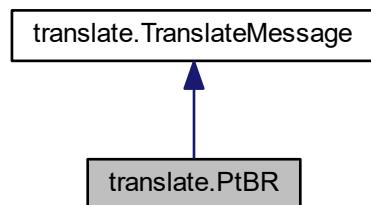
- D:/workspace/TrainVagas/src/test/PermutationTest.java

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()

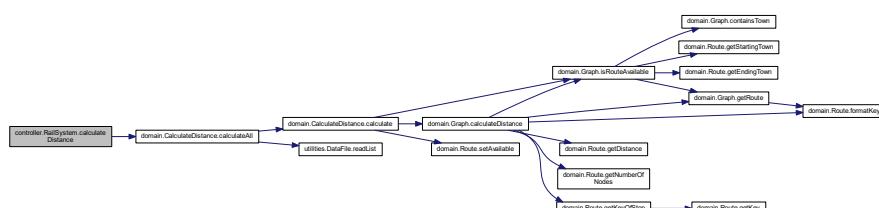
```
static Route [] controller.RailSystem.calculateDistance () [static]
```

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

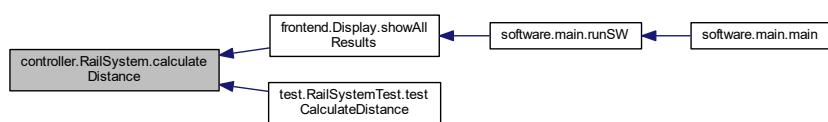
Returns

Retorna lista de rotas com as distancias calculadas

Here is the call graph for this function:



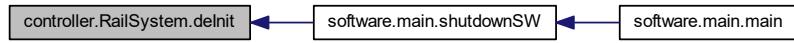
Here is the caller graph for this function:



6.15.1.2 delInit()

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

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



6.15.1.3 filterByDistance()

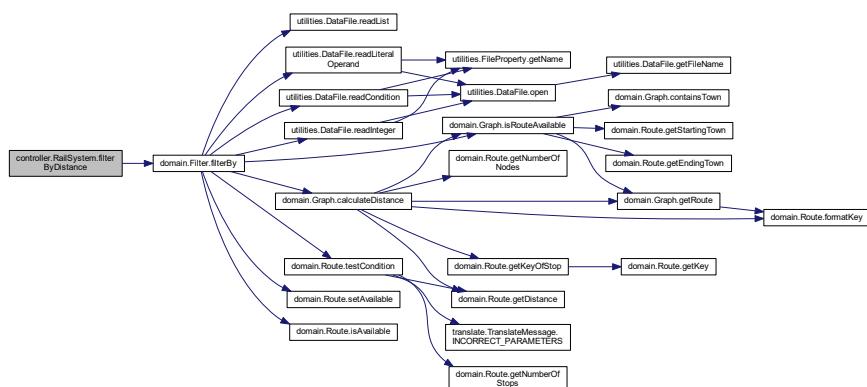
```
static Route [ ] controller.RailSystem.filterByDistance ( ) [static]
```

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()

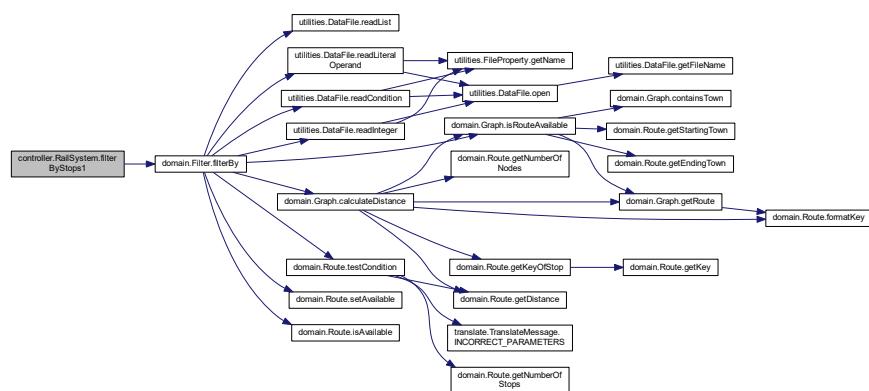
```
static Route [ ] controller.RailSystem.filterByStops1 ( ) [static]
```

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

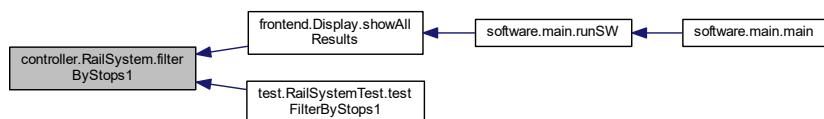
Returns

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()

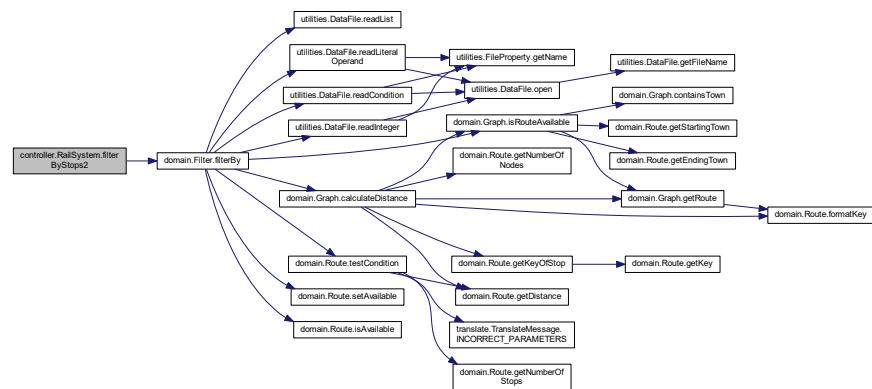
```
static Route [] controller.RailSystem.filterByStops2 ( ) [static]
```

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

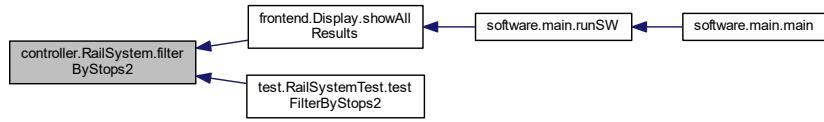
Returns

Retorna uma lista de rotas filtradas pela condiciao

Here is the call graph for this function:



Here is the caller graph for this function:

**6.15.1.6 init()**

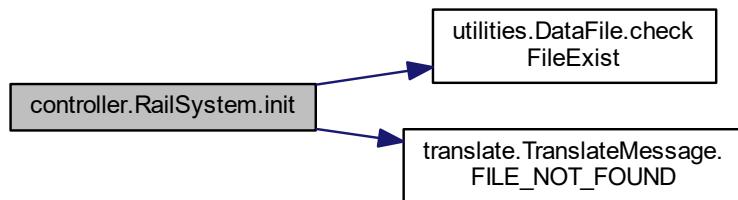
```
static boolean controller.RailSystem.init ( ) [static]
```

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

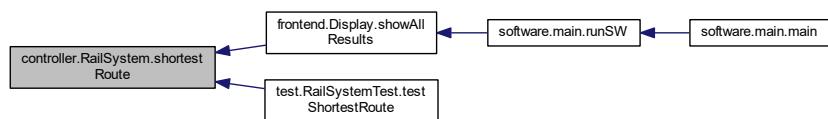
Returns

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
```

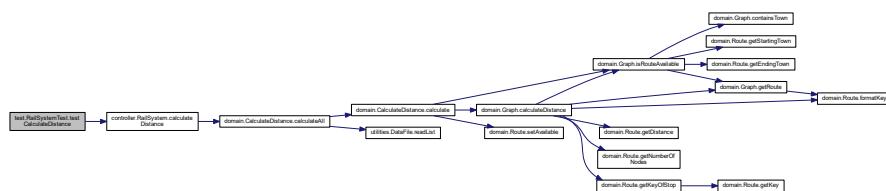
Here is the call graph for this function:



6.16.1.2 `testCalculateDistance()`

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

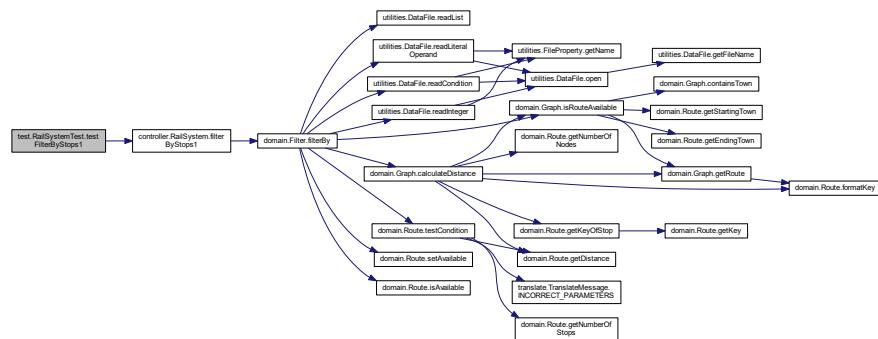
Here is the call graph for this function:



6.16.1.3 testFilterByStops()

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

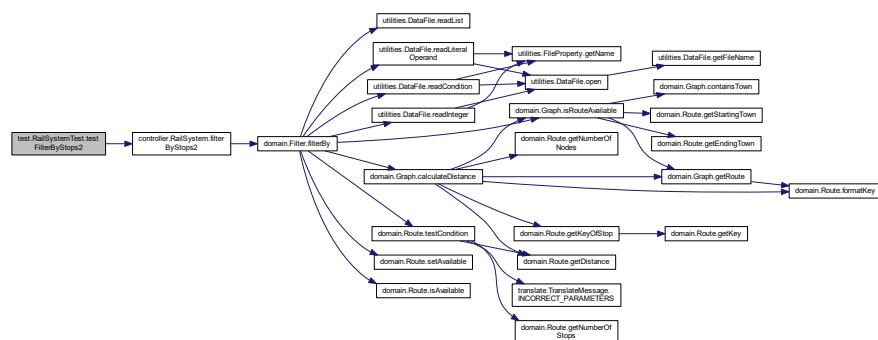
Here is the call graph for this function:



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]

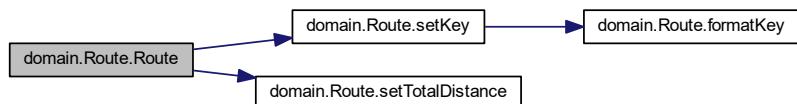
```
domain.Route.Route (
    String id,
    double total_distance )
```

Construtor

Parameters

<code>id</code>	key da rota
<code>total_distance</code>	distancia da rota

Here is the call graph for this function:



6.17.1.3 Route() [3/3]

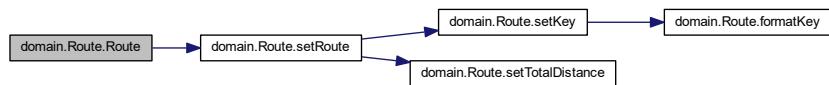
```
domain.Route.Route (
    String route )
```

Construtor

Parameters

<i>route</i>	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

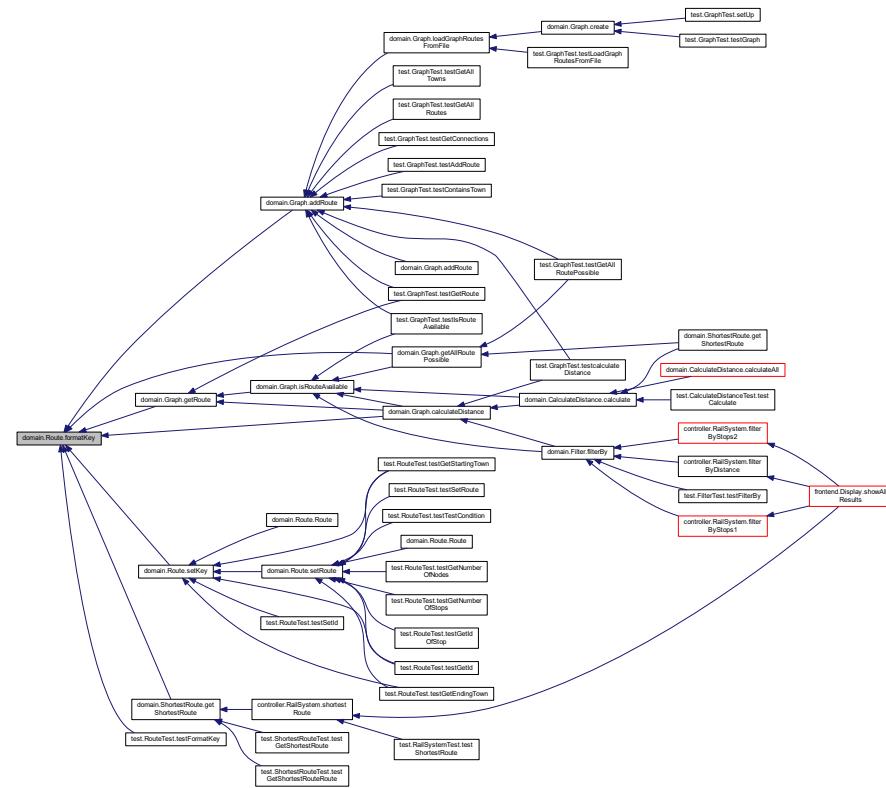
Parameters

<i>key_route</i>	key a ser formatado
------------------	---------------------

Returns

string formatada

Here is the caller graph for this function:

**6.17.2.2 getDistance()**

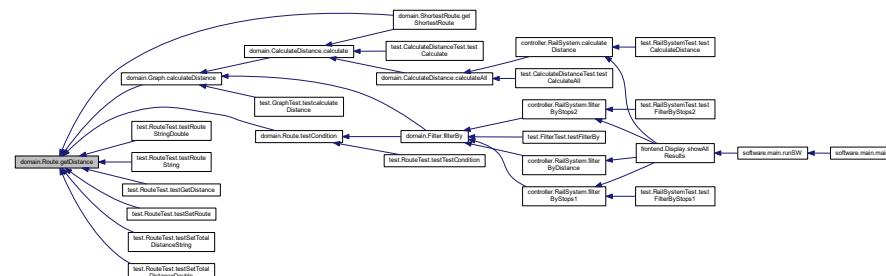
```
double domain.Route.getDistance ( )
```

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()

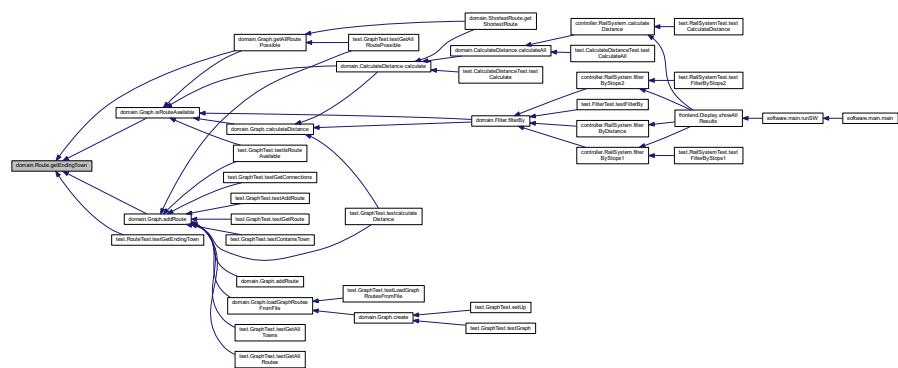
```
String domain.Route.getEndingTown ( )
```

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()

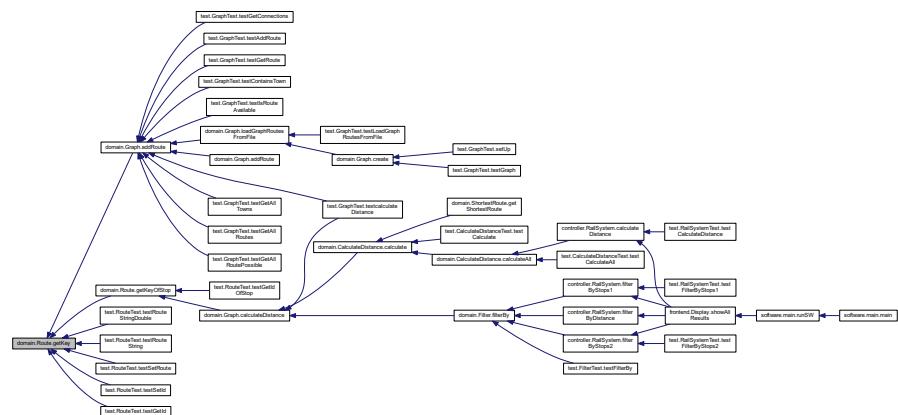
```
String domain.Route.getKey ( )
```

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 )
```

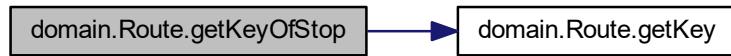
Retorna o key do trecho entre uma parada ate a proxima estacao

Parameters

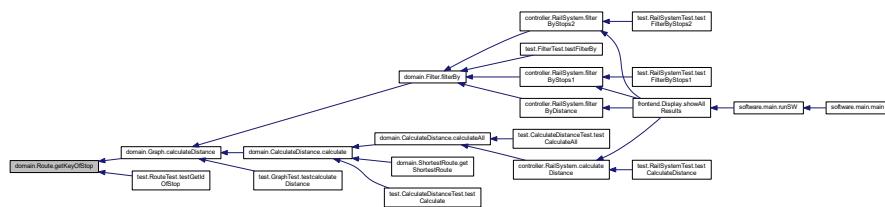
<i>n_stop</i>	numero da parada que se deseja o retorno do trecho
---------------	--

Returns

Here is the call graph for this function:



Here is the caller graph for this function:



6.17.2.6 getNumberOfNodes()

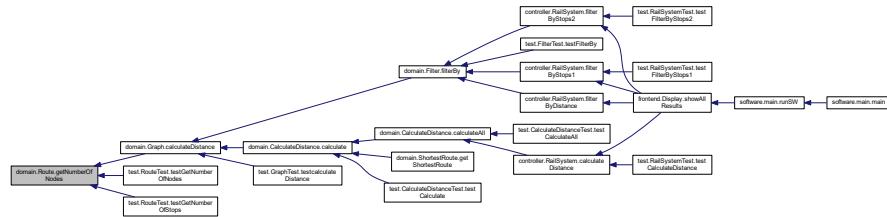
```
int domain.Route.getNumberOfNodes ( )
```

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()

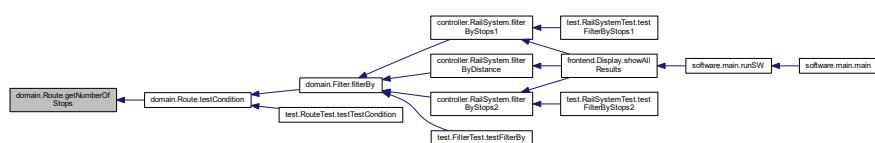
```
int domain.Route.getNumberOfStops ( )
```

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()

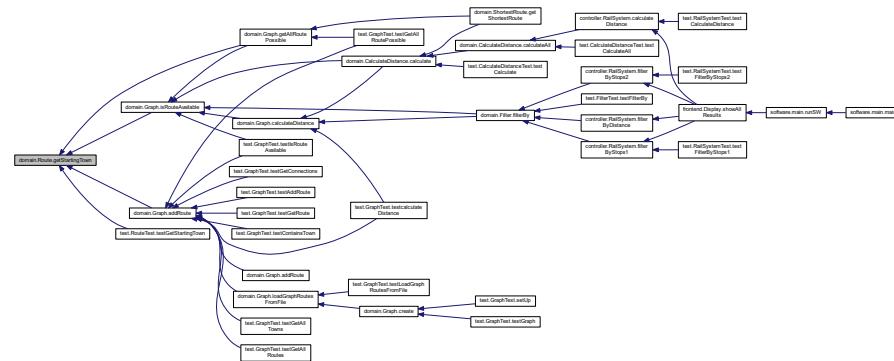
```
String domain.Route.getStartingTown ( )
```

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()**

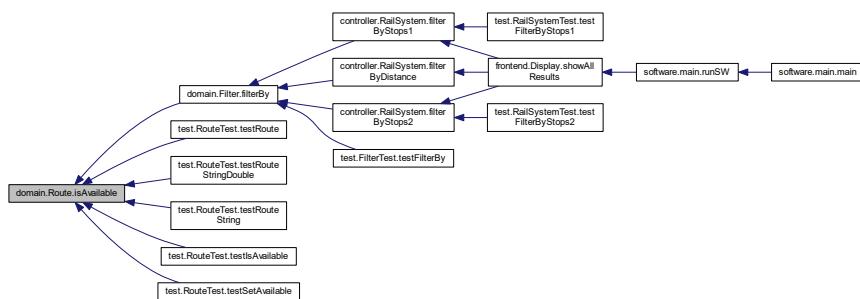
```
boolean domain.Route.isAvailable ( )
```

Retorna a disponibilidade de uma rota

Returns

Retorna se a rota é valida/disponivel

Here is the caller graph for this function:

**6.17.2.10 setAvailable()**

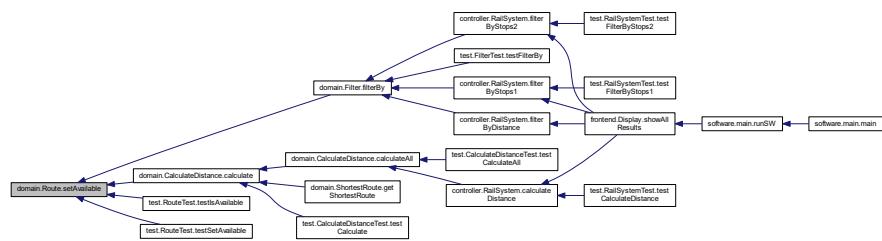
```
void domain.Route.setAvailable (
    boolean exist )
```

Set a disponibilidade da rota

Parameters

<i>exist</i>	<input type="checkbox"/>
--------------	--------------------------

Here is the caller graph for this function:



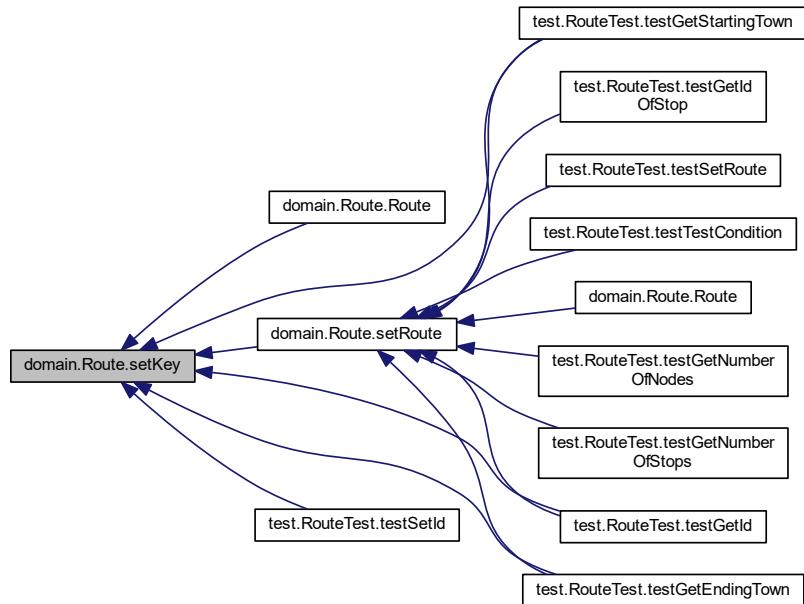
6.17.2.11 setKey()

```
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()

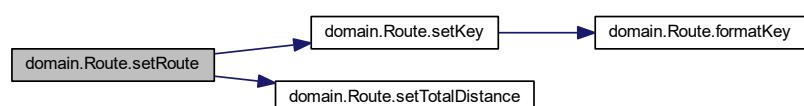
```
void domain.Route.setRoute (
    String route )
```

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

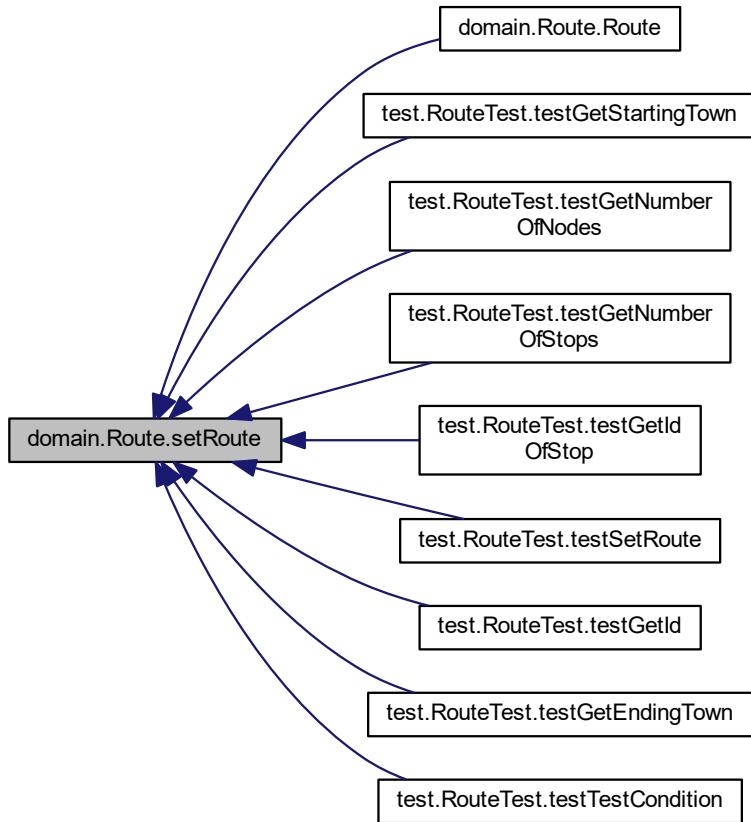
Parameters

<code>route</code>	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]

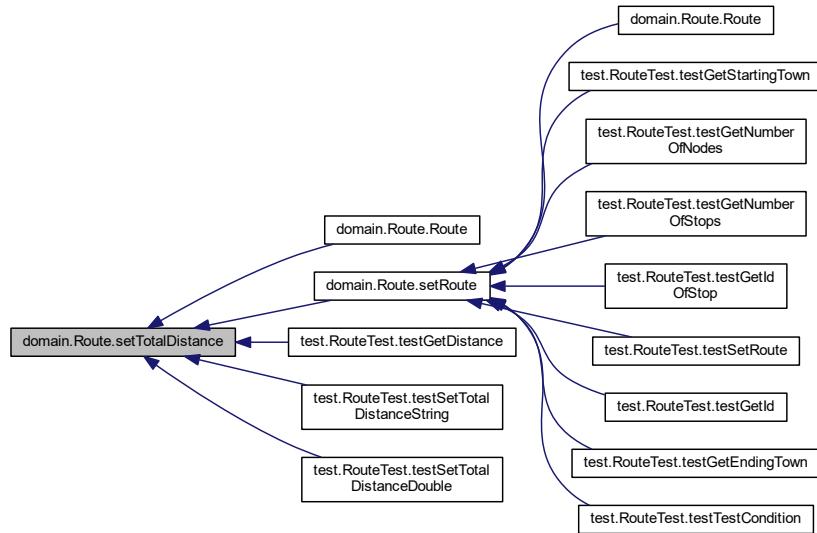
```
void domain.Route.setTotalDistance (
    String val )
```

Set a distancia de uma rota(viagem)

Parameters

<code>val</code>	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

<code>val</code>	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

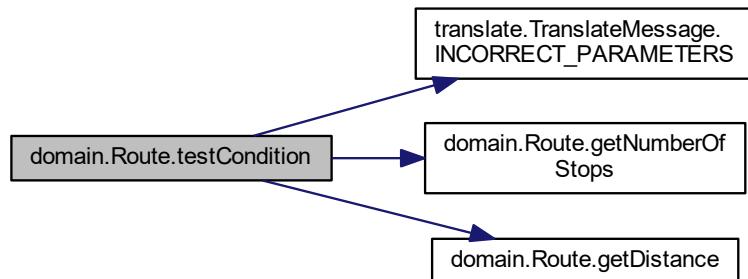
Parameters

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

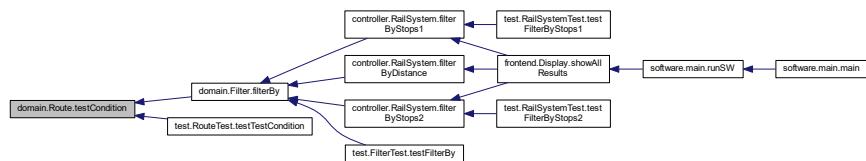
Returns

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]
```

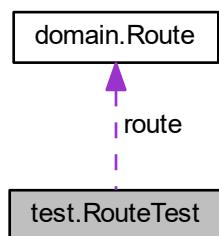
Distancia total da rota ou viagem

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 ( )
```

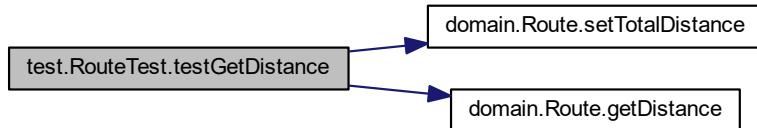
Here is the call graph for this function:



6.18.1.3 testGetDistance()

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

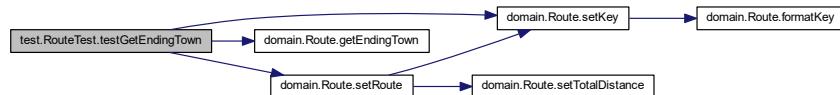
Here is the call graph for this function:



6.18.1.4 testGetEndingTown()

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

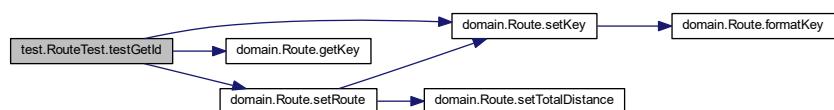
Here is the call graph for this function:



6.18.1.5 testGetId()

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

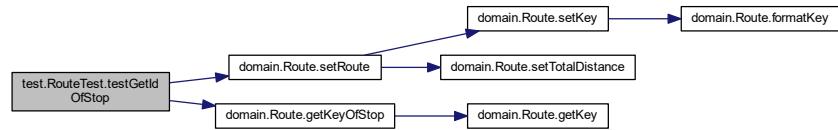
Here is the call graph for this function:



6.18.1.6 testGetIdOfStop()

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

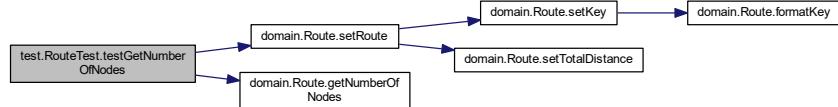
Here is the call graph for this function:



6.18.1.7 testGetNumberOfNodes()

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

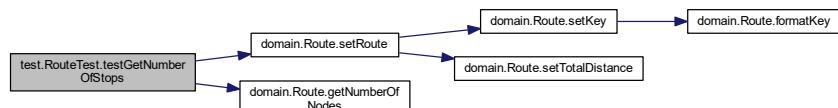
Here is the call graph for this function:



6.18.1.8 testGetNumberOfStops()

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

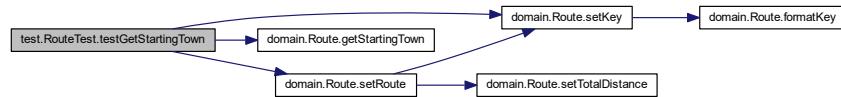
Here is the call graph for this function:



6.18.1.9 testGetStartingTown()

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

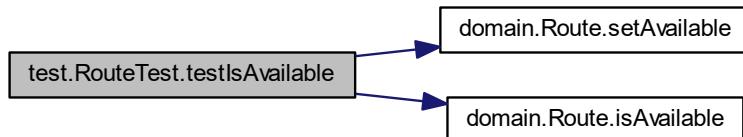
Here is the call graph for this function:



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 ( )
```

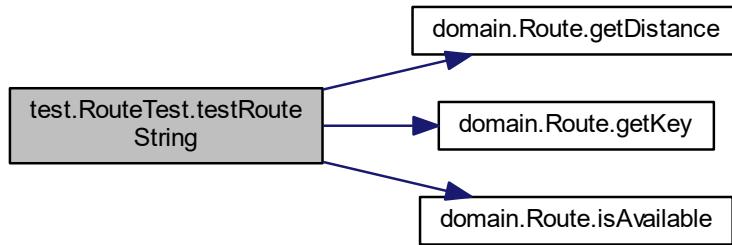
Here is the call graph for this function:



6.18.1.12 testRouteString()

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

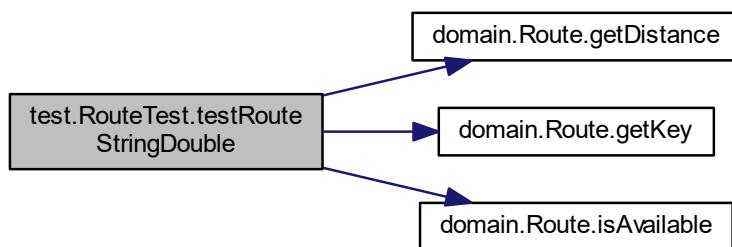
Here is the call graph for this function:



6.18.1.13 testRouteStringDouble()

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

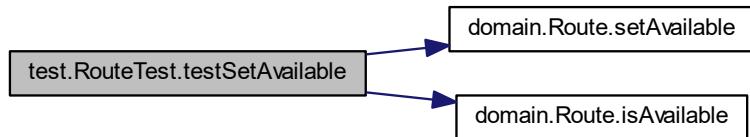
Here is the call graph for this function:



6.18.1.14 testSetAvailable()

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

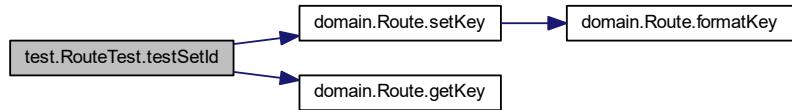
Here is the call graph for this function:



6.18.1.15 testSetId()

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

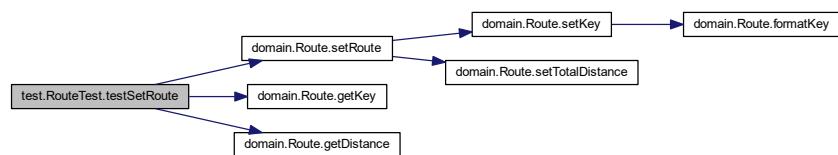
Here is the call graph for this function:



6.18.1.16 testSetRoute()

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

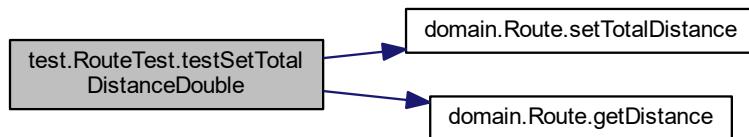
Here is the call graph for this function:



6.18.1.17 testSetTotalDistanceDouble()

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

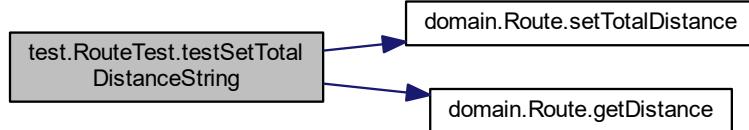
Here is the call graph for this function:



6.18.1.18 testSetTotalDistanceString()

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

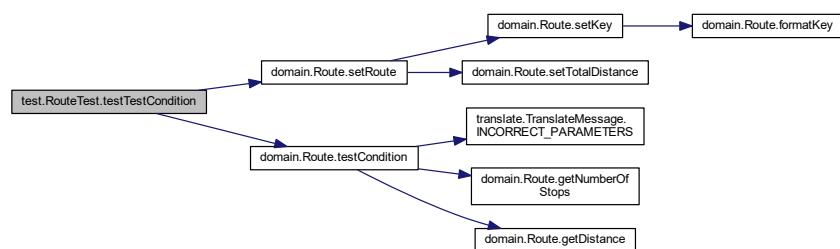
Here is the call graph for this function:



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

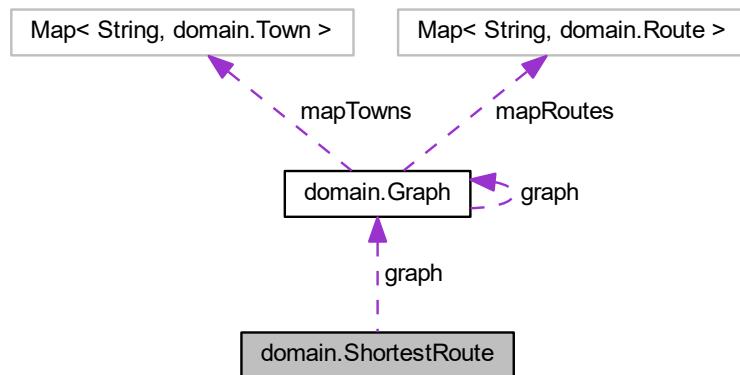
```
Route test.RouteTest.route [package]
```

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]

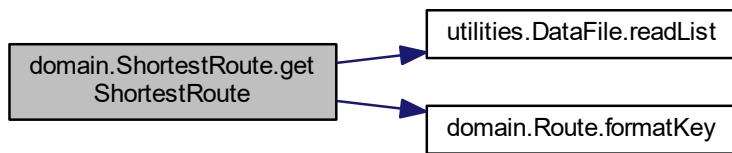
```
Map<String ,Route[ ]> domain.ShortestRoute.getShortestRoute ( )
```

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

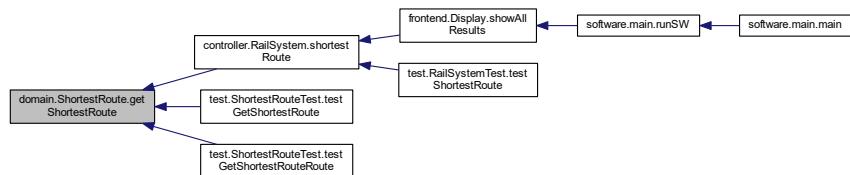
Returns

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)

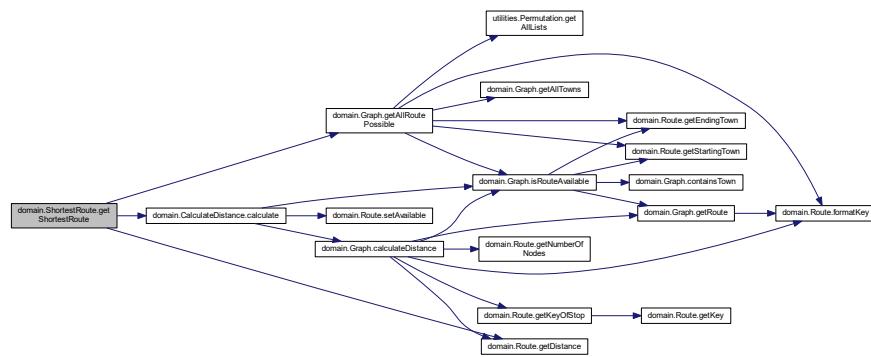
Parameters

<i>trip</i>	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]
```

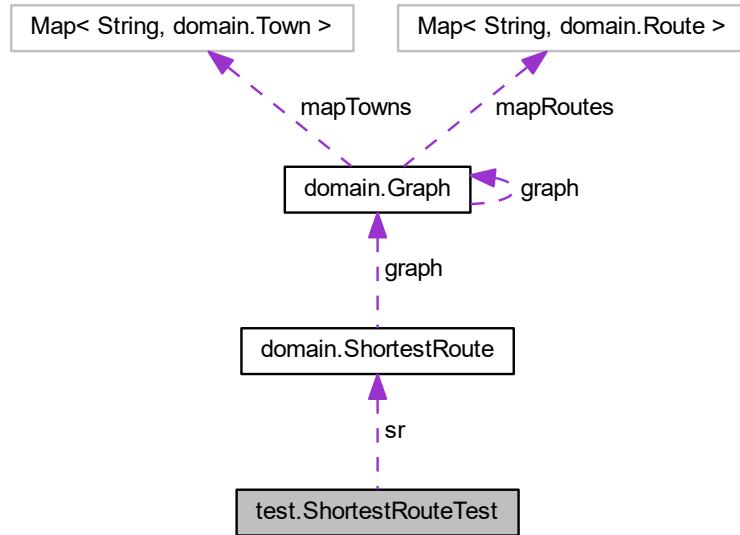
Rotas disponíveis no sistema

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

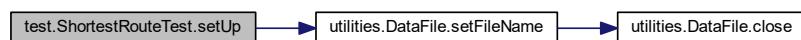
- `ShortestRoute sr`

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

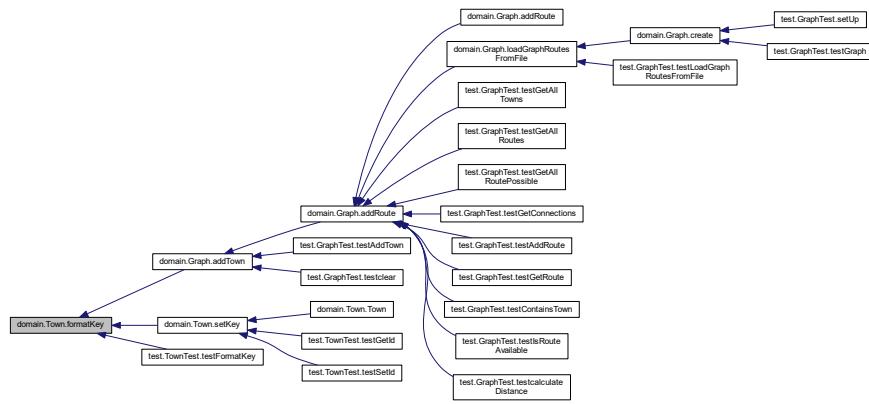
Parameters

<i>key_route</i>	key a ser formatado
------------------	---------------------

Returns

string formatada

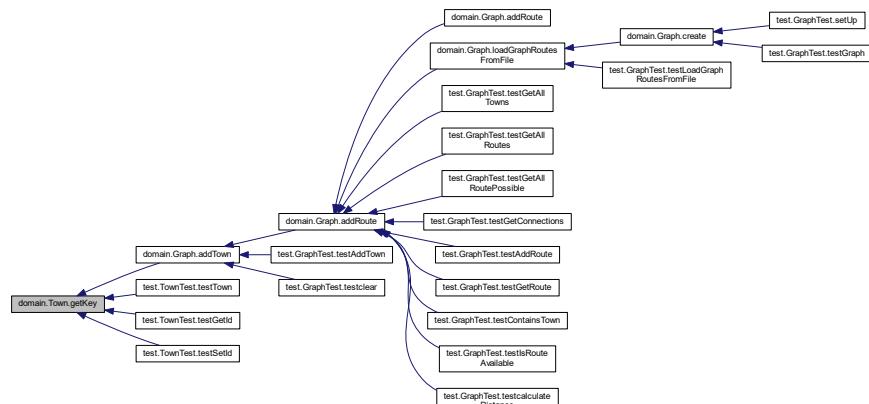
Here is the caller graph for this function:



6.21.2.2 getKey()

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

Here is the caller graph for this function:



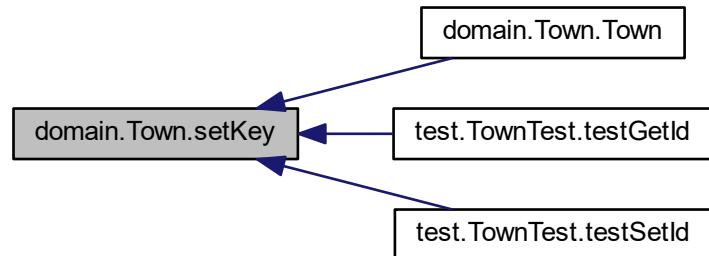
6.21.2.3 setKey()

```
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

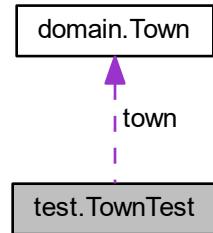
```
final String domain.Town.PATTERN_ID = "[^a-zA-Z]" [static], [private]
```

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 ( )
```

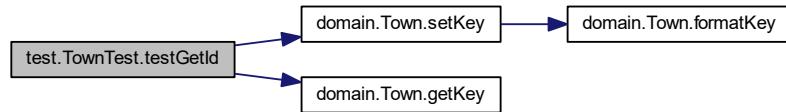
Here is the call graph for this function:



6.22.1.3 testGetId()

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

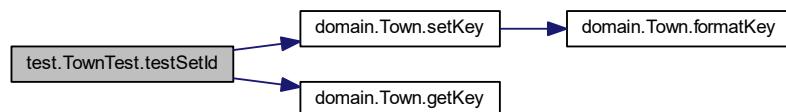
Here is the call graph for this function:



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

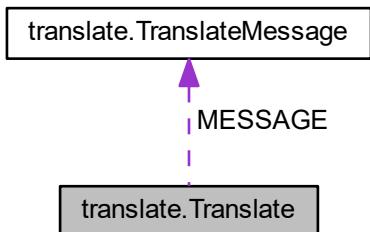
`Town` test.TownTest.town [package]

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

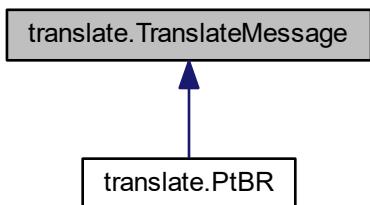
```
final TranslateMessage translate.Translate.MESSAGE = new PtBR\(\) [static]
```

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 \(\)](#)

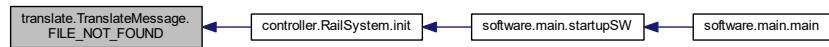
6.24.1 Member Function Documentation

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:

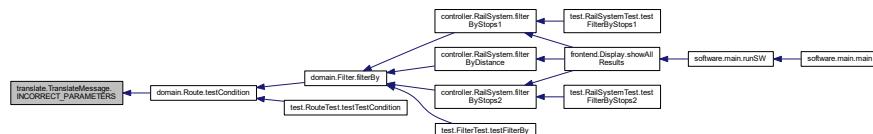


6.24.1.2 INCORRECT_PARAMETERS()

```
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.

Filtrar 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 containers 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 shourttestRouter.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	<input type="text"/>
------	----------------------

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 solução de mobilidade sobre trilhos.

Textos em português

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

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- class [utilities.Permutation](#)

Packages

- package [utilities](#)

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