

BiCAIM

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# Chapter 1

## Namespace Index

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## Chapter 2

# Hierarchical Index

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## Chapter 3

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## Chapter 4

# Namespace Documentation

### 4.1 Package factory\_interface

#### Classes

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- interface [IFFactoryCandidate](#)
- interface [IFFactoryCrossover](#)
- interface [IFFactoryDistribution](#)
- interface [IFFactoryFatherSelection](#)
- interface [IFFactoryGenerator](#)
- interface [IFFactoryMutation](#)
- interface [IFFactoryReplace](#)
- interface [IFFactorySolutionMethod](#)
- interface [IFFSampling](#)

#### 4.1.1 Detailed Description

@(#) IFFactoryAcceptCandidate.java

@(#) IFFactoryCandidate.java

### 4.2 Package factory\_method

#### Classes

- class [FactoryAcceptCandidate](#)
- class [FactoryCandidate](#)
- class [FactoryCrossover](#)
- class [FactoryDistribution](#)
- class [FactoryFatherSelection](#)
- class [FactoryGenerator](#)
- class [FactoryLoader](#)
- class [FactoryMutation](#)
- class [FactoryReplace](#)

- class [FactorySampling](#)
- class [FactorySolutionMethod](#)
- class **FactoryCandidateTest**
- class **FactoryDistributionTest**
- class **FactoryGeneratorTest**
- class **FactoryLoaderTest**
- class **FactorySamplingTest**
- class **FactorySolutionMethodTest**

#### 4.2.1 Detailed Description

@(#) FactoryAcceptCandidate.java

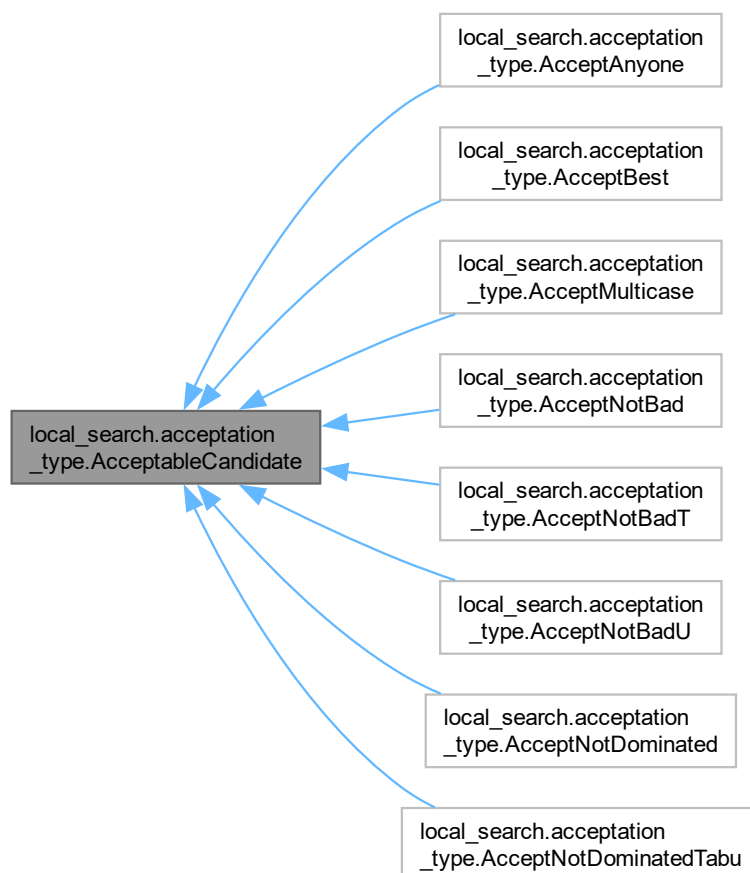
@(#) FactoryCandidate.java

## Chapter 5

# Class Documentation

### 5.1 local\_search.acceptation\_type.AcceptableCandidate Interface Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptableCandidate:



### Public Member Functions

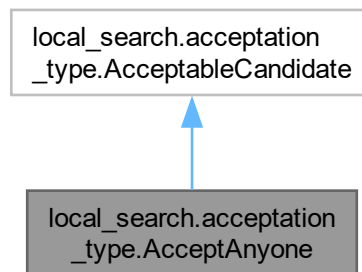
- Boolean **acceptCandidate** ([State](#) stateCurrent, [State](#) stateCandidate)

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

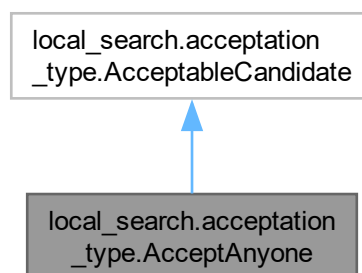
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptableCandidate.java

## 5.2 local\_search.acceptation\_type.AcceptAnyone Class Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptAnyone:



Collaboration diagram for local\_search.acceptation\_type.AcceptAnyone:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

## 5.2.1 Member Function Documentation

### 5.2.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptAnyone.acceptCandidate (
    State stateCurrent,
    State stateCandidate)
```

Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptAnyone.java

## 5.3 local\_search.acceptation\_type.AcceptationTypeTest Class Reference

### Public Member Functions

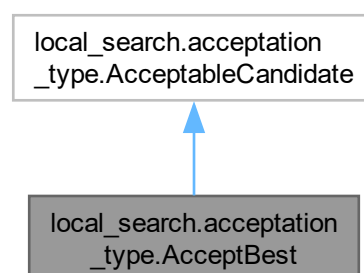
- void **setUp** ()
- void **testAcceptAnyone** ()
- void **testAcceptBestMaximization** () throws Exception
- void **testAcceptBestMinimization** () throws Exception
- void **testAcceptNotBadMaximization** () throws Exception
- void **testAcceptNotDominated** ()
- void **testAcceptNotBadT** ()
- void **testAcceptNotBadU** ()
- void **testAcceptMulticase** ()

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

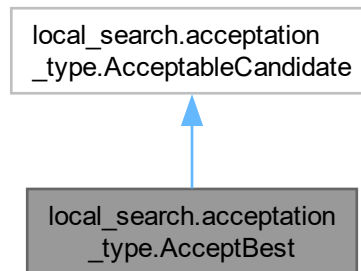
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/local\_search/acceptation\_type/AcceptationTypeTest.java

## 5.4 local\_search.acceptation\_type.AcceptBest Class Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptBest:



Collaboration diagram for `local_search.acceptation_type.AcceptBest`:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

## 5.4.1 Member Function Documentation

### 5.4.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptBest.acceptCandidate (
    State stateCurrent,
    State stateCandidate)
```

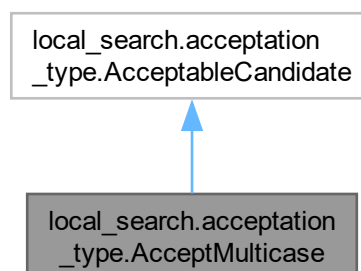
Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

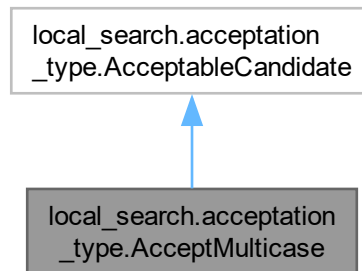
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local_search/acceptation_type/AcceptBest.java`

## 5.5 local\_search.acceptation\_type.AcceptMulticase Class Reference

Inheritance diagram for `local_search.acceptation_type.AcceptMulticase`:



Collaboration diagram for local\_search.acceptation\_type.AcceptMulticase:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

## 5.5.1 Member Function Documentation

### 5.5.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptMulticase.acceptCandidate (  
    State stateCurrent,  
    State stateCandidate)
```

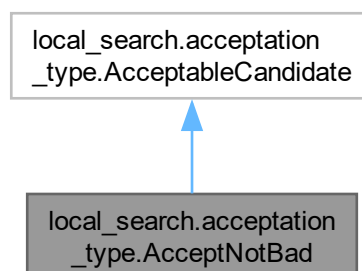
Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

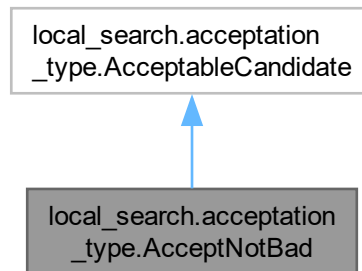
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptMulticase.java

## 5.6 local\_search.acceptation\_type.AcceptNotBad Class Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptNotBad:



Collaboration diagram for `local_search.acceptation_type.AcceptNotBad`:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

## 5.6.1 Member Function Documentation

### 5.6.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptNotBad.acceptCandidate (  
    State stateCurrent,  
    State stateCandidate)
```

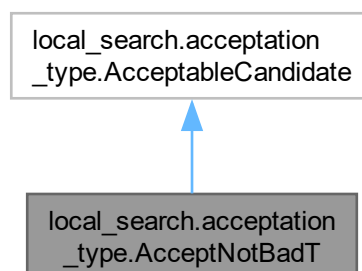
Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local_search/acceptation_type/AcceptNotBad.java`

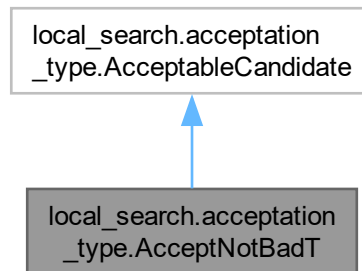
## 5.7 local\_search.acceptation\_type.AcceptNotBadT Class Reference

Inheritance diagram for `local_search.acceptation_type.AcceptNotBadT`:





Collaboration diagram for local\_search.acceptation\_type.AcceptNotBadT:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

## 5.7.1 Member Function Documentation

### 5.7.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptNotBadT.acceptCandidate (  
    State stateCurrent,  
    State stateCandidate)
```

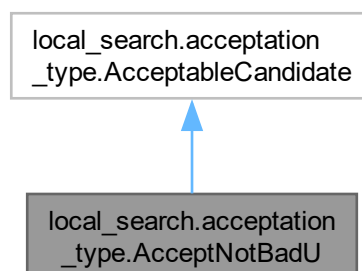
Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

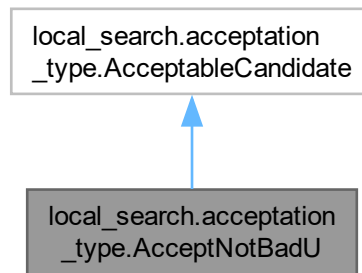
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptNotBadT.java

## 5.8 local\_search.acceptation\_type.AcceptNotBadU Class Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptNotBadU:



Collaboration diagram for `local_search.acceptation_type.AcceptNotBadU`:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

## 5.8.1 Member Function Documentation

### 5.8.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptNotBadU.acceptCandidate (
    State stateCurrent,
    State stateCandidate)
```

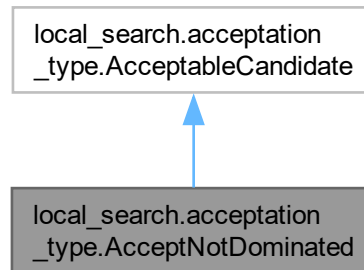
Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

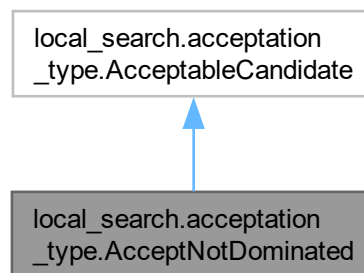
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local_search/acceptation_type/AcceptNotBadU.java`

## 5.9 local\_search.acceptation\_type.AcceptNotDominated Class Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptNotDominated:



Collaboration diagram for local\_search.acceptation\_type.AcceptNotDominated:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

### 5.9.1 Member Function Documentation

#### 5.9.1.1 acceptCandidate()

```
Boolean local_search.acceptation_type.AcceptNotDominated.acceptCandidate (  
    State stateCurrent,  
    State stateCandidate)
```

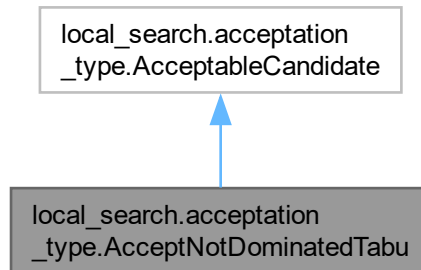
Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

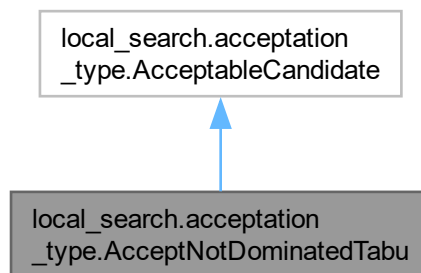
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptNotDominated.java

## 5.10 local\_search.acceptation\_type.AcceptNotDominatedTabu Class Reference

Inheritance diagram for local\_search.acceptation\_type.AcceptNotDominatedTabu:



Collaboration diagram for local\_search.acceptation\_type.AcceptNotDominatedTabu:



### Public Member Functions

- Boolean [acceptCandidate](#) ([State](#) stateCurrent, [State](#) stateCandidate)

### 5.10.1 Member Function Documentation

#### 5.10.1.1 acceptCandidate()

```

Boolean local_search.acceptation_type.AcceptNotDominatedTabu.acceptCandidate (
    State stateCurrent,
    State stateCandidate)
  
```

Implements [local\\_search.acceptation\\_type.AcceptableCandidate](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptNotDominatedTabu.java

## 5.11 local\_search.acceptation\_type.AcceptType Enum Reference

### Public Attributes

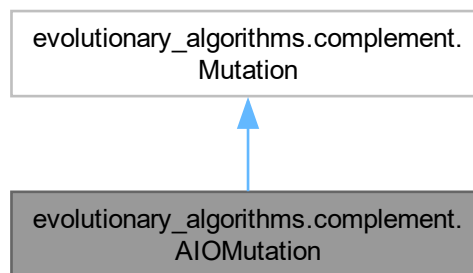
- **AcceptAnyone**
- **AcceptBest**
- **AcceptNotBad**
- **AcceptNotBadT**
- **AcceptNotBadU**
- **AcceptMulticase**
- **AcceptNotDominated**
- **AcceptNotDominatedTabu**

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

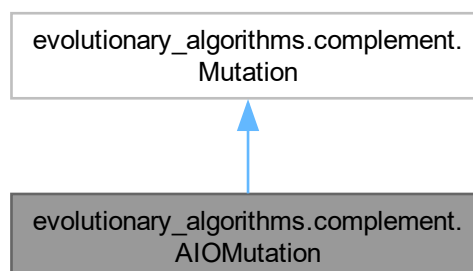
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/AcceptType.java

## 5.12 evolutionary\_algorithms.complement.AIOMutation Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.AIOMutation:



Collaboration diagram for evolutionary\_algorithms.complement.AIOMutation:



### Public Member Functions

- [State mutation](#) ([State](#) state, double PM)
- void **sortedPathValue** ([State](#) state)

### Static Public Member Functions

- static void **fillPath** ()

### Static Public Attributes

- static ArrayList< Object > **path** = new ArrayList<Object>()

## 5.12.1 Member Function Documentation

### 5.12.1.1 mutation()

```
State evolutionary_algorithms.complement.AIOMutation.mutation (  
    State state,  
    double PM)
```

Reimplemented from [evolutionary\\_algorithms.complement.Mutation](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/AIOMutation.java

## 5.13 local\_search.candidate\_type.CandidateType Enum Reference

### Public Attributes

- **RandomCandidate**
- **GreaterCandidate**
- **SmallerCandidate**
- **NotDominatedCandidate**

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/CandidateType.java

## 5.14 local\_search.candidate\_type.CandidateTypeTest Class Reference

### Public Member Functions

- void **setUp** ()
- void **testRandomCandidate** () throws Exception
- void **testGreaterCandidate** () throws Exception
- void **testSmallerCandidate** () throws Exception
- void **testNotDominatedCandidate** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/local\_search/candidate\_type/CandidateTypeTest.java

## 5.15 local\_search.candidate\_type.CandidateValue Class Reference

### Public Member Functions

- [State](#) **stateCandidate** ([State](#) stateReference, [CandidateType](#) type, [StrategyType](#) strategy, Integer operator-number, List< [State](#) > neighborhood)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/CandidateValue.java

## 5.16 problem.definition.Codification Class Reference

### Public Member Functions

- abstract boolean **validState** ([State](#) state)
- abstract Object **getVariableAleatoryValue** (int key)
- abstract int **getAleatoryKey** ()
- abstract int **getVariableCount** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/definition/Codification.java

## 5.17 problem.definition.CodificationTest Class Reference

### Public Member Functions

- void **testAbstractImplementation** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem/definition/CodificationTest.java

## 5.18 local\_search.complement.ComplementTest Class Reference

### Public Member Functions

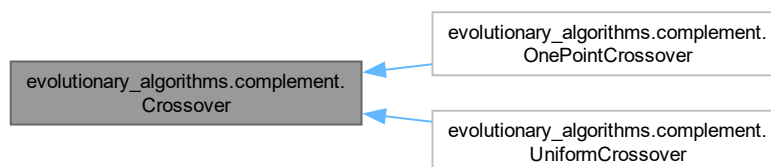
- void **setUp** ()
- void **testUpdateParameter** ()
- void **testTabuSolutions** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/local\_search/complement/ComplementTest.java

## 5.19 evolutionary\_algorithms.complement.Crossover Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.Crossover:



### Public Member Functions

- abstract **State crossover** (**State** father1, **State** father2, double PC)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Crossover.java

## 5.20 evolutionary\_algorithms.complement.CrossoverType Enum Reference

### Public Attributes

- **OnePointCrossover**
- **UniformCrossover**

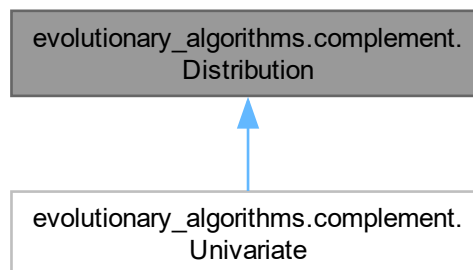
The documentation for this enum was generated from the following file:

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/CrossoverType.java



## 5.21 evolutionary\_algorithms.complement.Distribution Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.Distribution:



### Public Member Functions

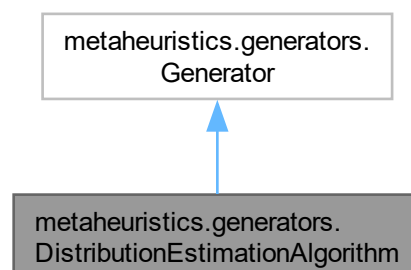
- abstract List< [Probability](#) > **distribution** (List< [State](#) > fathers)

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

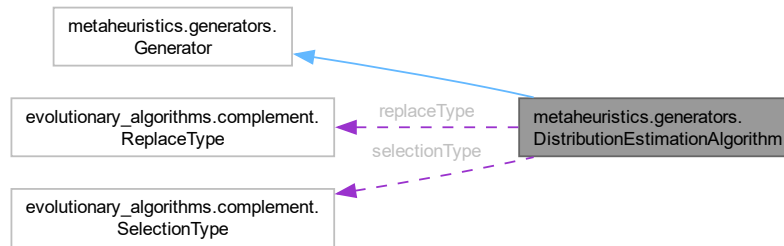
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Distribution.java

## 5.22 metaheuristics.generators.DistributionEstimationAlgorithm Class Reference

Inheritance diagram for metaheuristics.generators.DistributionEstimationAlgorithm:



Collaboration diagram for `metaheuristics.generators.DistributionEstimationAlgorithm`:



### Public Member Functions

- **State** **MaxValue** (List< **State** > listInd)
- **State** **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- **State** **getReference** ()
- List< **State** > **getReferenceList** ()
- **GeneratorType** **getType** ()
- void **setInitialReference** (**State** stateInitialRef)
- void **updateReference** (**State** stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< **State** > **getListStateRef** ()
- List< **State** > **getListReference** ()
- void **setListReference** (List< **State** > listReference)
- **GeneratorType** **getGeneratorType** ()
- void **setGeneratorType** (**GeneratorType** generatorType)
- List< **State** > **getfathersList** () throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< **State** > **getSonList** ()
- boolean **awardUpdateREF** (**State** stateCandidate)
- float **getWeight** ()
- void **setWeight** (float weight)
- **DistributionType** **getDistributionType** ()
- void **setDistributionType** (**DistributionType** distributionType)
- int[] **getListCountBetterGender** ()
- int[] **getListCountGender** ()
- float[] **getTrace** ()

### Static Public Attributes

- static List< **State** > **sonList** = new ArrayList<**State**>()
- static **ReplaceType** **replaceType**
- static **SelectionType** **selectionType**
- static int **truncation**
- static int **countRef** = 0
- static int **countGender** = 0
- static int **countBetterGender** = 0

## Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.22.1 Member Function Documentation

### 5.22.1.1 **awardUpdateREF()**

```
boolean metaheuristics.generators.DistributionEstimationAlgorithm.awardUpdateREF (  
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.22.1.2 **generate()**

```
State metaheuristics.generators.DistributionEstimationAlgorithm.generate (  
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↔  
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.22.1.3 **getListCountBetterGender()**

```
int[] metaheuristics.generators.DistributionEstimationAlgorithm.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.22.1.4 **getListCountGender()**

```
int[] metaheuristics.generators.DistributionEstimationAlgorithm.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.22.1.5 **getReference()**

```
State metaheuristics.generators.DistributionEstimationAlgorithm.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.6 `getReferenceList()`

```
List< State > metaheuristics.generators.DistributionEstimationAlgorithm.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.7 `getSonList()`

```
List< State > metaheuristics.generators.DistributionEstimationAlgorithm.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.8 `getTrace()`

```
float[] metaheuristics.generators.DistributionEstimationAlgorithm.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.9 `getType()`

```
GeneratorType metaheuristics.generators.DistributionEstimationAlgorithm.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.10 `getWeight()`

```
float metaheuristics.generators.DistributionEstimationAlgorithm.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.11 `setInitialReference()`

```
void metaheuristics.generators.DistributionEstimationAlgorithm.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.22.1.12 `setWeight()`

```
void metaheuristics.generators.DistributionEstimationAlgorithm.setWeight (  
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.22.1.13 updateReference()

```
void metaheuristics.generators.DistributionEstimationAlgorithm.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/DistributionEstimationAlgorithm.java

## 5.23 metaheuristics.generators.DistributionEstimationAlgorithmTest Class Reference

### Public Member Functions

- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testGenerate** () throws Exception
- void **testUpdateReference** () throws Exception
- void **testGetReference** ()
- void **testGetType** ()
- void **testMaxValue** ()
- void **testGetListStateRef\_Empty** ()
- void **testAwardUpdateREF** ()
- void **testGettersAndSetters** ()
- void **testGetListReference** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/DistributionEstimationAlgorithmTest.java

## 5.24 evolutionary\_algorithms.complement.DistributionType Enum Reference

### Public Attributes

- **Univariate**

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/DistributionType.java

## 5.25 local\_search.acceptation\_type.Dominance Class Reference

### Public Member Functions

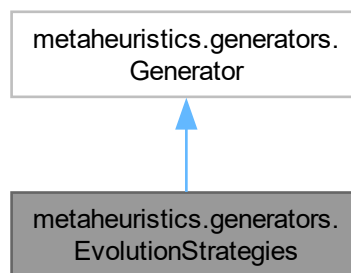
- boolean **dominance** ([State](#) solutionX, [State](#) solutionY)
- boolean **ListDominance** ([State](#) stateCandidate, List< [State](#) > listRefPoblacFinal)

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

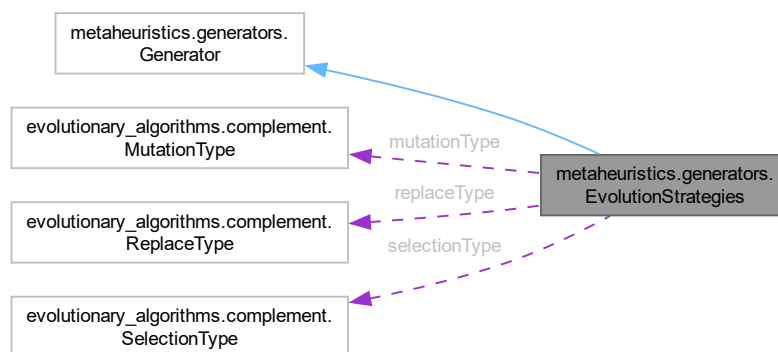
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/acceptation\_type/Dominance.java

## 5.26 metaheuristics.generators.EvolutionStrategies Class Reference

Inheritance diagram for metaheuristics.generators.EvolutionStrategies:



Collaboration diagram for metaheuristics.generators.EvolutionStrategies:



## Public Member Functions

- [State](#) [generate](#) (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [State](#) [getReference](#) ()
- void [setStateRef](#) ([State](#) stateRef)
- [GeneratorType](#) [getType](#) ()
- void [setInitialReference](#) ([State](#) stateInitialRef)
- void [updateReference](#) ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< [State](#) > [getListStateRef](#) ()
- List< [State](#) > [getListStateReference](#) ()
- void [setListStateReference](#) (List< [State](#) > listStateReference)
- [GeneratorType](#) [getTypeGenerator](#) ()
- void [setTypeGenerator](#) ([GeneratorType](#) generatorType)
- List< [State](#) > [getReferenceList](#) ()
- List< [State](#) > [getSonList](#) ()
- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()
- float[] [getTrace](#) ()

## Static Public Attributes

- static double **PM**
- static [MutationType](#) **mutationType**
- static [ReplaceType](#) **replaceType**
- static [SelectionType](#) **selectionType**
- static int **countRef** = 0
- static int **truncation**
- static int **countGender** = 0
- static int **countBetterGender** = 0

## Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.26.1 Member Function Documentation

### 5.26.1.1 [awardUpdateREF\(\)](#)

```
boolean metaheuristics.generators.EvolutionStrategies.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.2 generate()

```
State metaheuristics.generators.EvolutionStrategies.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↵
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.EvolutionStrategies.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.4 getListCountGender()

```
int[] metaheuristics.generators.EvolutionStrategies.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.5 getReference()

```
State metaheuristics.generators.EvolutionStrategies.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.6 getReferenceList()

```
List< State > metaheuristics.generators.EvolutionStrategies.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.7 getSonList()

```
List< State > metaheuristics.generators.EvolutionStrategies.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.8 getTrace()

```
float[] metaheuristics.generators.EvolutionStrategies.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).



### 5.26.1.9 getType()

`GeneratorType metaheuristics.generators.EvolutionStrategies.getType ()`

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.10 getWeight()

`float metaheuristics.generators.EvolutionStrategies.getWeight ()`

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.11 setInitialReference()

`void metaheuristics.generators.EvolutionStrategies.setInitialReference (  
    State stateInitialRef)`

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.12 setWeight()

`void metaheuristics.generators.EvolutionStrategies.setWeight (  
    float weight)`

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.26.1.13 updateReference()

`void metaheuristics.generators.EvolutionStrategies.updateReference (  
    State stateCandidate,  
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,  
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
    Exception, NoSuchMethodException`

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/EvolutionStrategies.java

## 5.27 metaheuristics.generators.EvolutionStrategiesTest Class Reference

### Public Member Functions

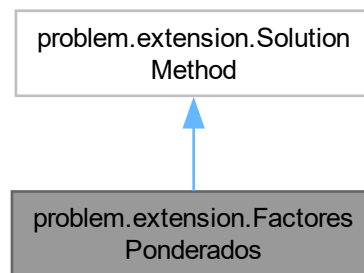
- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testGenerate** () throws Exception
- void **testGetType** ()
- void **testGetReference** () throws Exception
- void **testUpdateReference** () throws Exception
- void **testGetListStateRef\_FromRandomSearch** ()
- void **testGetListStateRef\_FromOtherGenerator** ()
- void **testGetSetters** ()
- void **testGetReferenceList** ()
- void **testGetListStateReference** ()

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

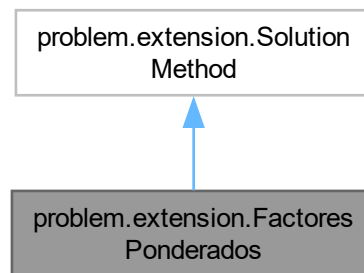
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/EvolutionStrategiesTest.java

## 5.28 problem.extension.FactoresPonderados Class Reference

Inheritance diagram for problem.extension.FactoresPonderados:



Collaboration diagram for problem.extension.FactoresPonderados:



### Public Member Functions

- void [evaluationState](#) ([State](#) state)

## 5.28.1 Member Function Documentation

### 5.28.1.1 [evaluationState\(\)](#)

```
void problem.extension.FactoresPonderados.evaluationState (
    State state)
```

Reimplemented from [problem.extension.SolutionMethod](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/extension/FactoresPonderados.java

## 5.29 problem.extension.FactoresPonderadosTest Class Reference

### Public Member Functions

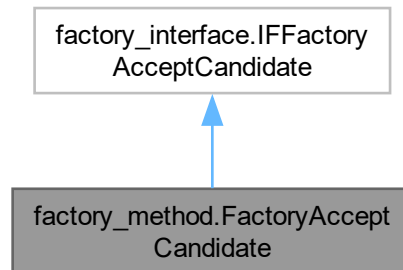
- void **setUp** ()
- void **testEvaluationStateMaximizarMaximizar** ()
- void **testEvaluationStateMaximizarMinimizar** ()
- void **testEvaluationStateMinimizarMaximizar** ()
- void **testEvaluationStateMinimizarMinimizar** ()

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

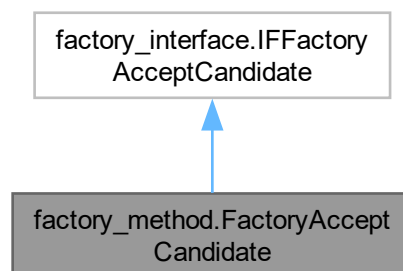
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem/extension/FactoresPonderadosTest.java

## 5.30 factory\_method.FactoryAcceptCandidate Class Reference

Inheritance diagram for factory\_method.FactoryAcceptCandidate:



Collaboration diagram for factory\_method.FactoryAcceptCandidate:



### Public Member Functions

- [AcceptableCandidate](#) [createAcceptCandidate](#) ([AcceptType](#) typeacceptation) throws [IllegalArgument](#)↔[Exception](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

### 5.30.1 Member Function Documentation

#### 5.30.1.1 createAcceptCandidate()

```

AcceptableCandidate factory_method.FactoryAcceptCandidate.createAcceptCandidate (
    AcceptType typeacceptation) throws IllegalArgumentException, SecurityException,

```

`ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

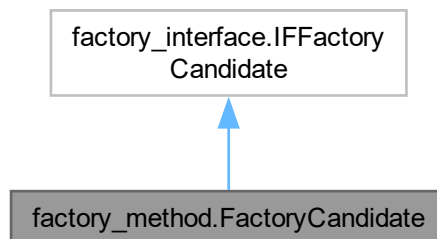
Implements [factory\\_interface.IFactoryCandidate](#).

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

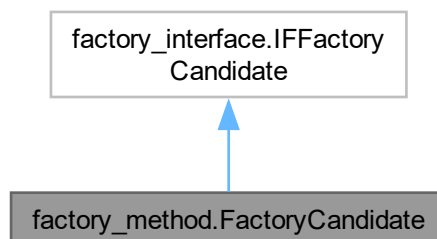
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_method/FactoryAcceptCandidate.java`

## 5.31 factory\_method.FactoryCandidate Class Reference

Inheritance diagram for `factory_method.FactoryCandidate`:



Collaboration diagram for `factory_method.FactoryCandidate`:



### Public Member Functions

- [SearchCandidate](#) `createSearchCandidate` ([CandidateType](#) typeCandidate) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

### 5.31.1 Member Function Documentation

#### 5.31.1.1 createSearchCandidate()

`SearchCandidate` `factory_method.FactoryCandidate.createSearchCandidate (`  
`CandidateType typeCandidate)` throws `IllegalArgumentException`, `SecurityException`,  
`ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`,  
`NoSuchMethodException`

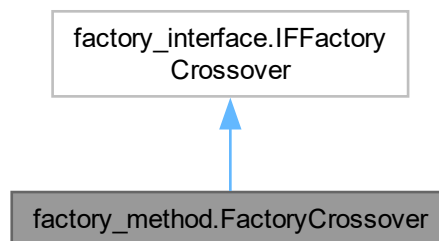
Implements `factory_interface.IFactoryCandidate`.

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

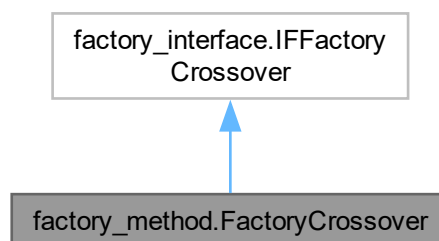
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_method/FactoryCandidate.java`

## 5.32 factory\_method.FactoryCrossover Class Reference

Inheritance diagram for `factory_method.FactoryCrossover`:



Collaboration diagram for `factory_method.FactoryCrossover`:



### Public Member Functions

- [Crossover](#) `createCrossover` ([CrossoverType](#) Crossovertype) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

## 5.32.1 Member Function Documentation

### 5.32.1.1 `createCrossover()`

[Crossover](#) `factory_method.FactoryCrossover.createCrossover` (  
    [CrossoverType](#) Crossovertype) throws `IllegalArgumentException`, `SecurityException`,  
`ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetEx`  
`ception`, `NoSuchMethodException`

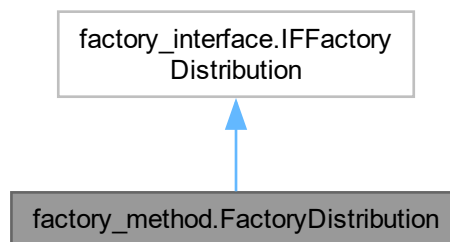
Implements [factory\\_interface.IFactoryCrossover](#).

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

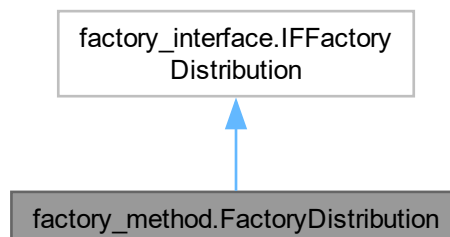
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_method/FactoryCrossover.java`

## 5.33 factory\_method.FactoryDistribution Class Reference

Inheritance diagram for `factory_method.FactoryDistribution`:



Collaboration diagram for `factory_method.FactoryDistribution`:



## Public Member Functions

- [Distribution](#) [createDistribution](#) ([DistributionType](#) *distributiontype*) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

## 5.33.1 Member Function Documentation

### 5.33.1.1 [createDistribution\(\)](#)

[Distribution](#) [factory\\_method.FactoryDistribution.createDistribution](#) (  
[DistributionType](#) *distributiontype*) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

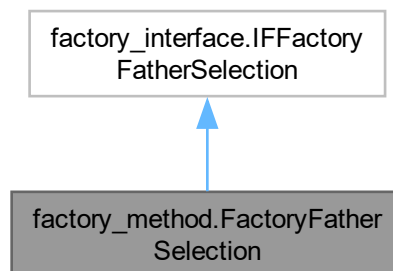
Implements [factory\\_interface.IFFactoryDistribution](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_method/FactoryDistribution.java

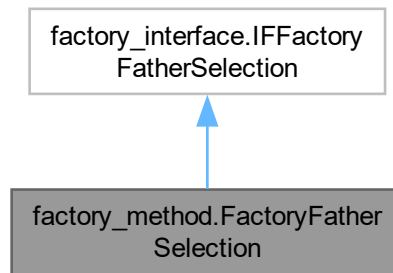
## 5.34 [factory\\_method.FactoryFatherSelection](#) Class Reference

Inheritance diagram for [factory\\_method.FactoryFatherSelection](#):





Collaboration diagram for factory\_method.FactoryFatherSelection:



### Public Member Functions

- [FatherSelection](#) `createSelectFather` ([SelectionType](#) `selectionType`) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

## 5.34.1 Member Function Documentation

### 5.34.1.1 `createSelectFather()`

```
FatherSelection factory_method.FactoryFatherSelection.createSelectFather (  
    SelectionType selectionType) throws IllegalArgumentException, SecurityException,  
ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetEx  
ception, NoSuchMethodException
```

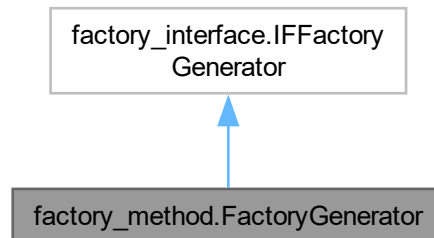
Implements [factory\\_interface.IFFactoryFatherSelection](#).

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

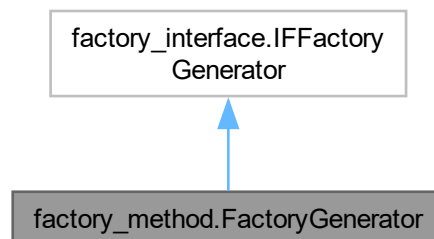
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_method/FactoryFatherSelection.java`

## 5.35 factory\_method.FactoryGenerator Class Reference

Inheritance diagram for factory\_method.FactoryGenerator:



Collaboration diagram for factory\_method.FactoryGenerator:



### Public Member Functions

- [Generator](#) [createGenerator](#) ([GeneratorType](#) generatorType) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

### 5.35.1 Member Function Documentation

#### 5.35.1.1 createGenerator()

[Generator](#) [factory\\_method.FactoryGenerator.createGenerator](#) (  
     [GeneratorType](#) generatorType) throws [IllegalArgumentException](#), [SecurityException](#),  
[ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#),  
[NoSuchMethodException](#)

Implements [factory\\_interface.IFactoryGenerator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_method/FactoryGenerator.java

## 5.36 factory\_method.FactoryLoader Class Reference

### Static Public Member Functions

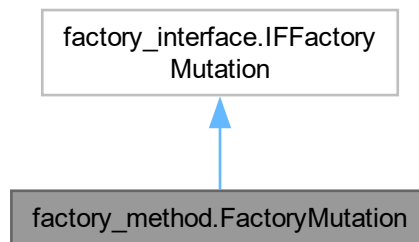
- static Object **getInstance** (String className) throws ClassNotFoundException, IllegalArgumentException, SecurityException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException

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

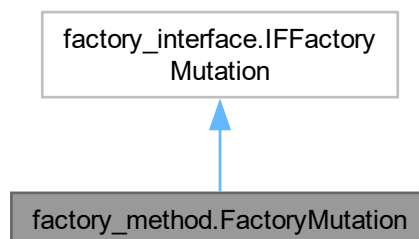
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_method/FactoryLoader.java

## 5.37 factory\_method.FactoryMutation Class Reference

Inheritance diagram for factory\_method.FactoryMutation:



Collaboration diagram for factory\_method.FactoryMutation:



## Public Member Functions

- [Mutation](#) `createMutation` ([MutationType](#) typeMutation) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

## 5.37.1 Member Function Documentation

### 5.37.1.1 `createMutation()`

`Mutation` `factory_method.FactoryMutation.createMutation` (`MutationType` typeMutation) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

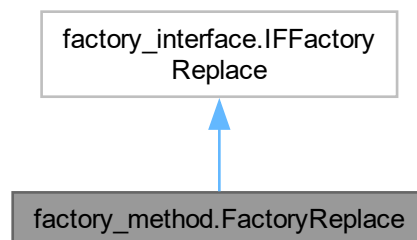
Implements [factory\\_interface.IFactoryMutation](#).

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

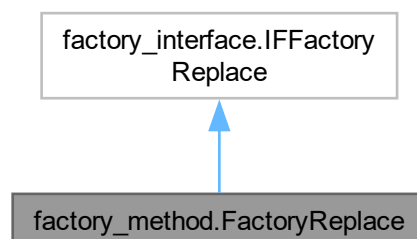
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_method/FactoryMutation.java`

## 5.38 `factory_method.FactoryReplace` Class Reference

Inheritance diagram for `factory_method.FactoryReplace`:



Collaboration diagram for `factory_method.FactoryReplace`:



## Public Member Functions

- [Replace](#) [createReplace](#) ([ReplaceType](#) *typereplace*) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

## 5.38.1 Member Function Documentation

### 5.38.1.1 createReplace()

[Replace](#) `factory_method.FactoryReplace.createReplace` (  
    [ReplaceType](#) *typereplace*) throws `IllegalArgumentException`, `SecurityException`,  
`ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetEx`←  
`ception`, `NoSuchMethodException`

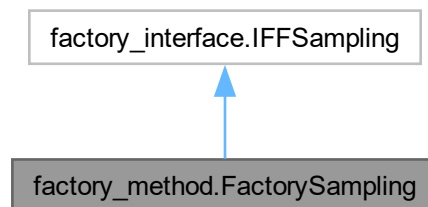
Implements [factory\\_interface.IFFactoryReplace](#).

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

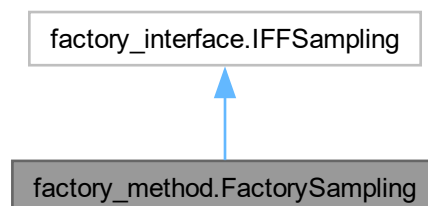
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_method/FactoryReplace.java`

## 5.39 factory\_method.FactorySampling Class Reference

Inheritance diagram for `factory_method.FactorySampling`:



Collaboration diagram for `factory_method.FactorySampling`:



## Public Member Functions

- [Sampling](#) [createSampling](#) ([SamplingType](#) typesampling) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

## 5.39.1 Member Function Documentation

### 5.39.1.1 createSampling()

[Sampling](#) [factory\\_method.FactorySampling.createSampling](#) ([SamplingType](#) typesampling) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

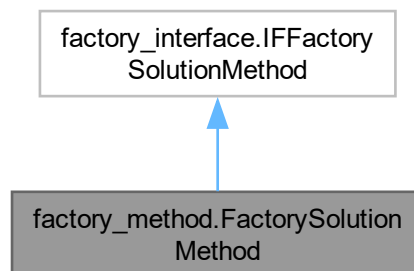
Implements [factory\\_interface.IFFSampling](#).

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

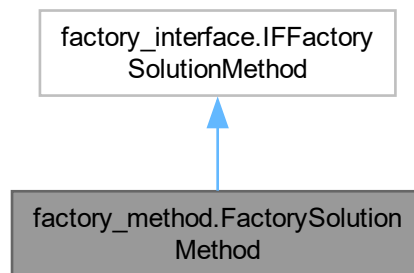
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_method/FactorySampling.java

## 5.40 factory\_method.FactorySolutionMethod Class Reference

Inheritance diagram for [factory\\_method.FactorySolutionMethod](#):



Collaboration diagram for factory\_method.FactorySolutionMethod:



### Public Member Functions

- [SolutionMethod createdSolutionMethod](#) ([TypeSolutionMethod](#) method) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

## 5.40.1 Member Function Documentation

### 5.40.1.1 createdSolutionMethod()

[SolutionMethod](#) `factory_method.FactorySolutionMethod.createdSolutionMethod` ([TypeSolutionMethod](#) method) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

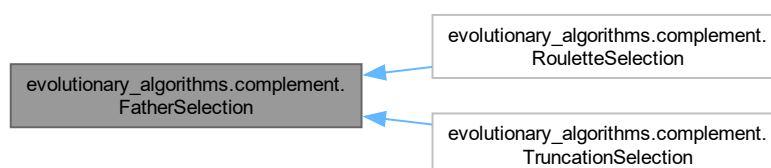
Implements [factory\\_interface.IFactorySolutionMethod](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_method/FactorySolutionMethod.java

## 5.41 evolutionary\_algorithms.complement.FatherSelection Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.FatherSelection:



### Public Member Functions

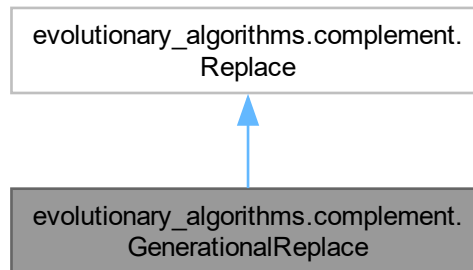
- abstract List< [State](#) > **selection** (List< [State](#) > listState, int truncation)

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

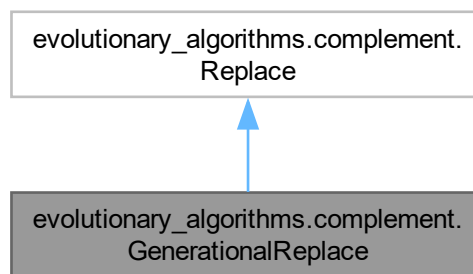
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/FatherSelection.java

## 5.42 evolutionary\_algorithms.complement.GenerationalReplace Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.GenerationalReplace:



Collaboration diagram for evolutionary\_algorithms.complement.GenerationalReplace:



### Public Member Functions

- List< [State](#) > **replace** ([State](#) stateCandidate, List< [State](#) > listState) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException



## 5.42.1 Member Function Documentation

### 5.42.1.1 replace()

```
List< State > evolutionary_algorithms.complement.GenerationalReplace.replace (  
    State stateCandidate,  
    List< State > listState) throws IllegalArgumentException, SecurityException,  
ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTarget←  
Exception, NoSuchMethodException
```

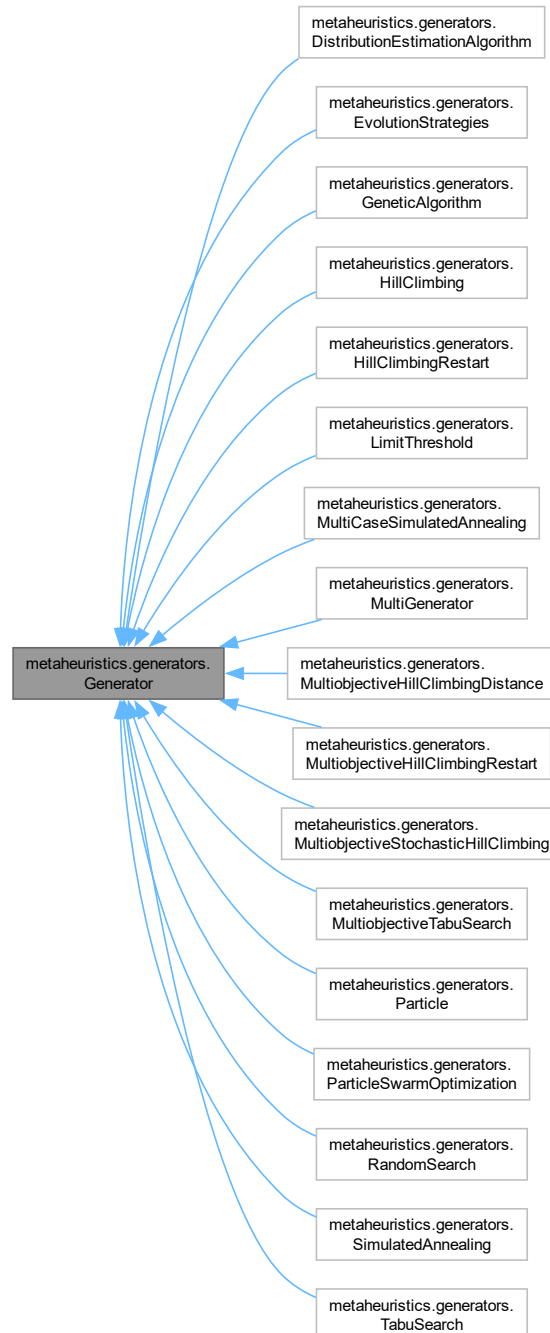
Reimplemented from [evolutionary\\_algorithms.complement.Replace](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/GenerationalReplace.java

## 5.43 metaheuristics.generators.Generator Class Reference

Inheritance diagram for metaheuristics.generators.Generator:



### Public Member Functions

- abstract [State](#) **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException

- abstract void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws [IllegalArgument](#)Exception, [Security](#)Exception, [ClassNotFound](#)Exception, [Instantiation](#)Exception, [IllegalAccess](#)Exception, [InvocationTarget](#)Exception, [NoSuchMethod](#)Exception
- abstract [State](#) **getReference** ()
- abstract void **setInitialReference** ([State](#) stateInitialRef)
- abstract [GeneratorType](#) **getType** ()
- abstract List< [State](#) > **getReferenceList** ()
- abstract List< [State](#) > **getSonList** ()
- abstract boolean **awardUpdateREF** ([State](#) stateCandidate)
- abstract void **setWeight** (float weight)
- abstract float **getWeight** ()
- abstract float[] **getTrace** ()
- abstract int[] **getListCountBetterGender** ()
- abstract int[] **getListCountGender** ()

#### Public Attributes

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/Generator.java

## 5.44 metaheuristics.generators.GeneratorsTest Class Reference

#### Public Member Functions

- void **setUp** ()
- void **testHillClimbingRestartInitialization** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/GeneratorsTest.java

## 5.45 metaheuristics.generators.GeneratorType Enum Reference

#### Public Attributes

- **HillClimbing**
- **TabuSearch**
- **SimulatedAnnealing**
- **RandomSearch**
- **LimitThreshold**
- **HillClimbingRestart**
- **GeneticAlgorithm**
- **EvolutionStrategies**

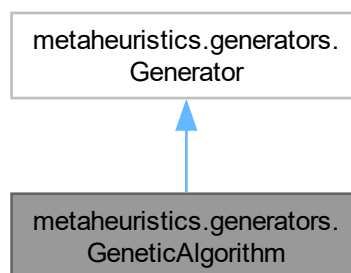
- **DistributionEstimationAlgorithm**
- **ParticleSwarmOptimization**
- **MultiGenerator**
- **MultiobjectiveTabuSearch**
- **MultiobjectiveStochasticHillClimbing**
- **MultiCaseSimulatedAnnealing**
- **MultiobjectiveHillClimbingRestart**
- **MultiobjectiveHillClimbingDistance**

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

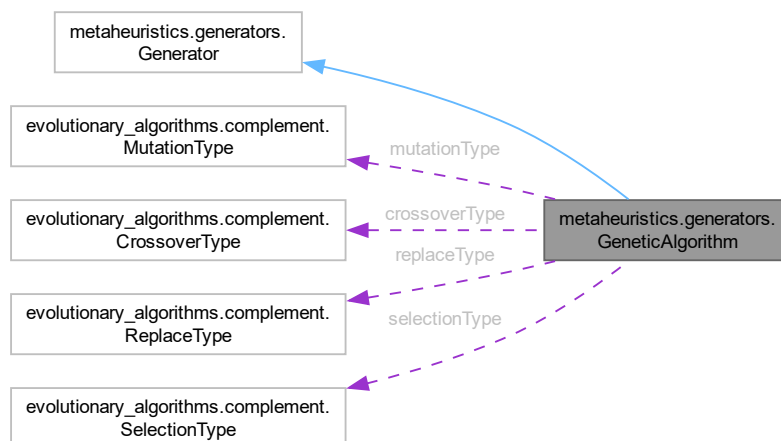
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/GeneratorType.java

## 5.46 metaheuristics.generators.GeneticAlgorithm Class Reference

Inheritance diagram for metaheuristics.generators.GeneticAlgorithm:



Collaboration diagram for metaheuristics.generators.GeneticAlgorithm:



**Public Member Functions**

- [State](#) **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [State](#) **getReference** ()
- void **setStateRef** ([State](#) stateRef)
- void **setInitialReference** ([State](#) stateInitialRef)
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< [State](#) > **getListState** ()
- void **setListState** (List< [State](#) > listState)
- List< [State](#) > **getListStateRef** ()
- [GeneratorType](#) **getGeneratorType** ()
- void **setGeneratorType** ([GeneratorType](#) generatorType)
- [GeneratorType](#) **getType** ()
- List< [State](#) > **getReferenceList** ()
- List< [State](#) > **getSonList** ()
- boolean **awardUpdateREF** ([State](#) stateCandidate)
- float **getWeight** ()
- void **setWeight** (float weight)
- int[] **getListCountBetterGender** ()
- int[] **getListCountGender** ()
- float[] **getTrace** ()

**Static Public Attributes**

- static [MutationType](#) **mutationType**
- static [CrossoverType](#) **crossoverType**
- static [ReplaceType](#) **replaceType**
- static [SelectionType](#) **selectionType**
- static double **PC**
- static double **PM**
- static int **countRef** = 0
- static int **truncation**
- static int **countGender** = 0
- static int **countBetterGender** = 0

**Additional Inherited Members****Public Attributes inherited from [metaheuristics.generators.Generator](#)**

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.46.1 Member Function Documentation

### 5.46.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.GeneticAlgorithm.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.46.1.2 generate()

```
State metaheuristics.generators.GeneticAlgorithm.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↵
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.46.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.GeneticAlgorithm.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.46.1.4 getListCountGender()

```
int[] metaheuristics.generators.GeneticAlgorithm.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.46.1.5 getReference()

```
State metaheuristics.generators.GeneticAlgorithm.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.46.1.6 getReferenceList()

```
List< State > metaheuristics.generators.GeneticAlgorithm.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.46.1.7 getSonList()

```
List< State > metaheuristics.generators.GeneticAlgorithm.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.46.1.8 getTrace()

```
float[] metaheuristics.generators.GeneticAlgorithm.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.46.1.9 getType()

```
GeneratorType metaheuristics.generators.GeneticAlgorithm.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.46.1.10 getWeight()

```
float metaheuristics.generators.GeneticAlgorithm.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.46.1.11 setInitialReference()

```
void metaheuristics.generators.GeneticAlgorithm.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.46.1.12 setWeight()

```
void metaheuristics.generators.GeneticAlgorithm.setWeight (  
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.46.1.13 updateReference()

```
void metaheuristics.generators.GeneticAlgorithm.updateReference (  
    State stateCandidate,  
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,  
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
    Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/GeneticAlgorithm.java

## 5.47 metaheuristics.generators.GeneticAlgorithmTest Class Reference

### Public Member Functions

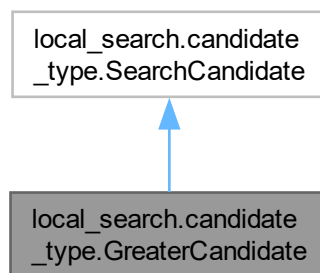
- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testGetType** ()
- void **testGetReference** ()
- void **testUpdateReference** () throws Exception
- void **testGetListStateRef\_FromRandomSearch** ()
- void **testGetListStateRef\_FromOtherGenerator** ()
- void **testGetSetters** ()
- void **testGetReferenceList** ()
- void **testGetListState** ()

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

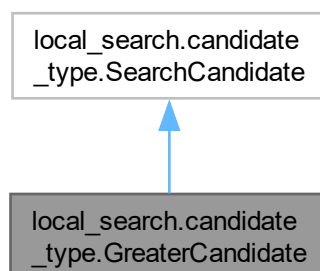
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/GeneticAlgorithmTest.java

## 5.48 local\_search.candidate\_type.GreaterCandidate Class Reference

Inheritance diagram for local\_search.candidate\_type.GreaterCandidate:



Collaboration diagram for local\_search.candidate\_type.GreaterCandidate:





## Public Member Functions

- [State candidate](#) ([State](#) stateReference, List< [State](#) > neighborhood)

## 5.48.1 Member Function Documentation

### 5.48.1.1 candidate()

```
State local_search.candidate_type.GreaterCandidate.candidate (  
    State stateReference,  
    List< State > neighborhood)
```

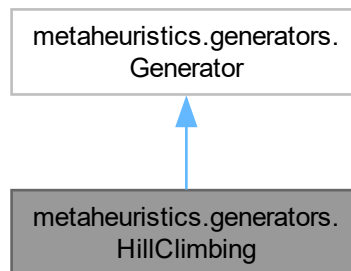
Implements [local\\_search.candidate\\_type.SearchCandidate](#).

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

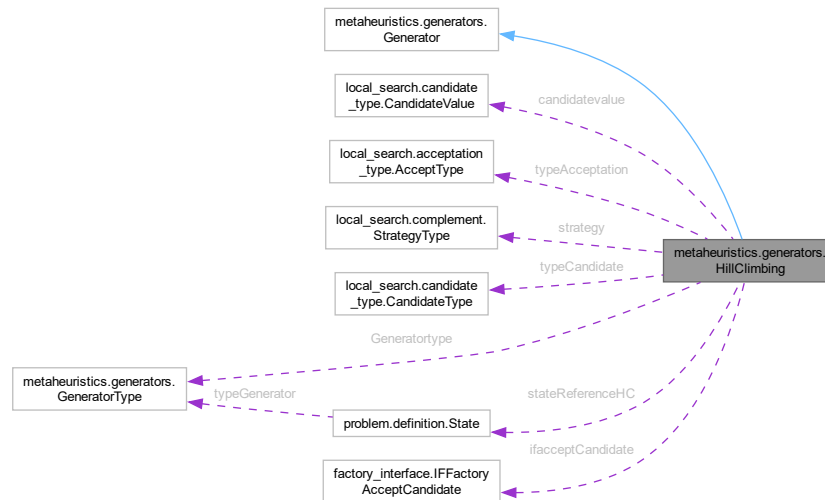
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/GreaterCandidate.java

## 5.49 metaheuristics.generators.HillClimbing Class Reference

Inheritance diagram for metaheuristics.generators.HillClimbing:



Collaboration diagram for `metaheuristics.generators.HillClimbing`:



## Public Member Functions

- `State generate` (Integer operatornumber) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- void `updateReference` (`State` stateCandidate, Integer countIterationsCurrent) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- List< `State` > `getReferenceList` ()
- `State` `getReference` ()
- void `setStateRef` (`State` stateRef)
- void `setInitialReference` (`State` stateInitialRef)
- `GeneratorType` `getGeneratorType` ()
- void `setGeneratorType` (`GeneratorType` GeneratorType)
- `GeneratorType` `getType` ()
- List< `State` > `getSonList` ()
- void `setTypeCandidate` (`CandidateType` typeCandidate)
- boolean `awardUpdateREF` (`State` stateCandidate)
- float `getWeight` ()
- void `setWeight` (float weight)
- int[] `getListCountBetterGender` ()
- int[] `getListCountGender` ()
- float[] `getTrace` ()

## Static Public Attributes

- static int `countGender` = 0
- static int `countBetterGender` = 0

**Protected Attributes**

- [CandidateValue](#) candidatevalue
- [AcceptType](#) typeAcceptation
- [StrategyType](#) strategy
- [CandidateType](#) typeCandidate
- [State](#) stateReferenceHC
- [IFactoryAcceptCandidate](#) ifacceptCandidate
- [GeneratorType](#) Generatortype
- List< [State](#) > listStateReference = new ArrayList<[State](#)>()
- float weight

**Additional Inherited Members****Public Attributes inherited from [metaheuristics.generators.Generator](#)**

- int countGender
- int countBetterGender
- int[] listCountBetterGender

**5.49.1 Member Function Documentation****5.49.1.1 awardUpdateREF()**

```
boolean metaheuristics.generators.HillClimbing.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.49.1.2 generate()**

```
State metaheuristics.generators.HillClimbing.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class←
    NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.49.1.3 getListCountBetterGender()**

```
int[] metaheuristics.generators.HillClimbing.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.49.1.4 getListCountGender()**

```
int[] metaheuristics.generators.HillClimbing.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.5 `getReference()`

`State` metaheuristics.generators.HillClimbing.getReference ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.6 `getReferenceList()`

`List< State >` metaheuristics.generators.HillClimbing.getReferenceList ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.7 `getSonList()`

`List< State >` metaheuristics.generators.HillClimbing.getSonList ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.8 `getTrace()`

`float[]` metaheuristics.generators.HillClimbing.getTrace ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.9 `getType()`

`GeneratorType` metaheuristics.generators.HillClimbing.getType ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.10 `getWeight()`

`float` metaheuristics.generators.HillClimbing.getWeight ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.11 `setInitialReference()`

`void` metaheuristics.generators.HillClimbing.setInitialReference (  
    `State` stateInitialRef)

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.12 setWeight()

```
void metaheuristics.generators.HillClimbing.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.49.1.13 updateReference()

```
void metaheuristics.generators.HillClimbing.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    Exception, NoSuchMethodException
```

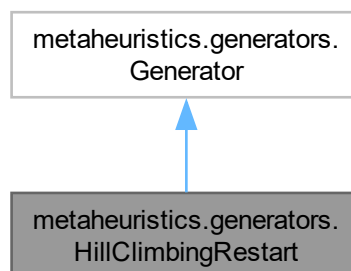
Reimplemented from [metaheuristics.generators.Generator](#).

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

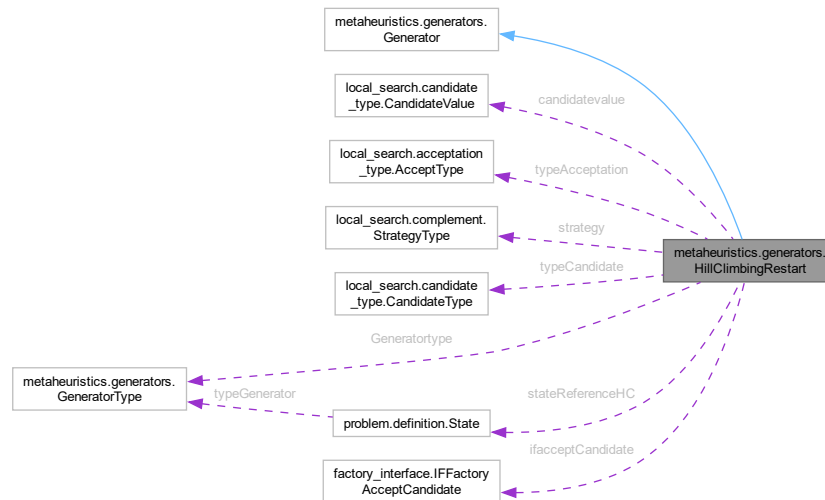
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/HillClimbing.java

## 5.50 metaheuristics.generators.HillClimbingRestart Class Reference

Inheritance diagram for metaheuristics.generators.HillClimbingRestart:



Collaboration diagram for `metaheuristics.generators.HillClimbingRestart`:



## Public Member Functions

- `State generate` (Integer operatornumber) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- void `updateReference` (`State` stateCandidate, Integer countIterationsCurrent) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- List< `State` > `getReferenceList` ()
- `State` `getReference` ()
- void `setStateRef` (`State` stateRef)
- void `setInitialReference` (`State` stateInitialRef)
- `GeneratorType` `getGeneratorType` ()
- void `setGeneratorType` (`GeneratorType` Generatortype)
- `GeneratorType` `getType` ()
- List< `State` > `getSonList` ()
- void `setTypeCandidate` (`CandidateType` typeCandidate)
- boolean `awardUpdateREF` (`State` stateCandidate)
- float `getWeight` ()
- void `setWeight` (float weight)
- int[] `getListCountBetterGender` ()
- int[] `getListCountGender` ()
- float[] `getTrace` ()

## Static Public Attributes

- static int `count`
- static int `countCurrent`
- static int `countGender` = 0
- static int `countBetterGender` = 0

**Protected Attributes**

- [CandidateValue](#) **candidatevalue**
- [AcceptType](#) **typeAcceptation**
- [StrategyType](#) **strategy**
- [CandidateType](#) **typeCandidate**
- [State](#) **stateReferenceHC**
- [IFactoryAcceptCandidate](#) **ifacceptCandidate**
- [GeneratorType](#) **Generatortype**
- List< [State](#) > **listStateReference** = new ArrayList<[State](#)>()
- float **weight**

**Additional Inherited Members****Public Attributes inherited from [metaheuristics.generators.Generator](#)**

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

**5.50.1 Member Function Documentation****5.50.1.1 awardUpdateREF()**

```
boolean metaheuristics.generators.HillClimbingRestart.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.50.1.2 generate()**

```
State metaheuristics.generators.HillClimbingRestart.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class←
    NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.50.1.3 getListCountBetterGender()**

```
int[] metaheuristics.generators.HillClimbingRestart.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.50.1.4 getListCountGender()**

```
int[] metaheuristics.generators.HillClimbingRestart.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.5 `getReference()`

```
State metaheuristics.generators.HillClimbingRestart.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.6 `getReferenceList()`

```
List< State > metaheuristics.generators.HillClimbingRestart.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.7 `getSonList()`

```
List< State > metaheuristics.generators.HillClimbingRestart.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.8 `getTrace()`

```
float[] metaheuristics.generators.HillClimbingRestart.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.9 `getType()`

```
GeneratorType metaheuristics.generators.HillClimbingRestart.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.10 `getWeight()`

```
float metaheuristics.generators.HillClimbingRestart.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.50.1.11 `setInitialReference()`

```
void metaheuristics.generators.HillClimbingRestart.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).



**5.50.1.12 setWeight()**

```
void metaheuristics.generators.HillClimbingRestart.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.50.1.13 updateReference()**

```
void metaheuristics.generators.HillClimbingRestart.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/HillClimbingRestart.java

**5.51 metaheuristics.generators.HillClimbingRestartTest Class Reference****Public Member Functions**

- void **setUp** ()
- void **testInitialization** ()
- void **testGenerate\_NoRestart** () throws Exception
- void **testGenerate\_Restart** () throws Exception
- void **testUpdateReference** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/HillClimbingRestartTest.java

**5.52 metaheuristics.generators.HillClimbingTest Class Reference****Public Member Functions**

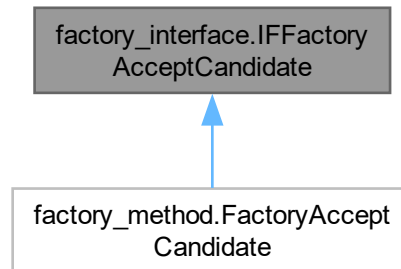
- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testGenerate** () throws Exception
- void **testSetAndGetReference** ()
- void **testGetType** ()
- void **testUpdateReference** () throws Exception
- void **testConstructorMaximizar** () throws Exception
- void **testGetReferenceList** ()
- void **testSetStateRef** ()
- void **testSetGeneratorType** ()
- void **testSetTypeCandidate** ()
- void **testGettersAndSetters** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/HillClimbingTest.java

## 5.53 factory\_interface.IFactoryAcceptCandidate Interface Reference

Inheritance diagram for factory\_interface.IFactoryAcceptCandidate:



### Public Member Functions

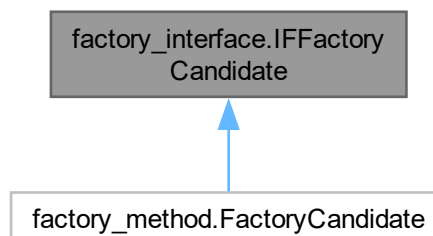
- [AcceptableCandidate](#) **createAcceptCandidate** ([AcceptType](#) typeacceptation) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFactoryAcceptCandidate.java

## 5.54 factory\_interface.IFactoryCandidate Interface Reference

Inheritance diagram for factory\_interface.IFactoryCandidate:



**Public Member Functions**

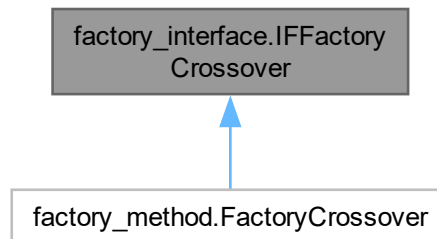
- [SearchCandidate](#) **createSearchCandidate** ([CandidateType](#) typeCandidate) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFFactoryCandidate.java

**5.55 factory\_interface.IFFactoryCrossover Interface Reference**

Inheritance diagram for factory\_interface.IFFactoryCrossover:

**Public Member Functions**

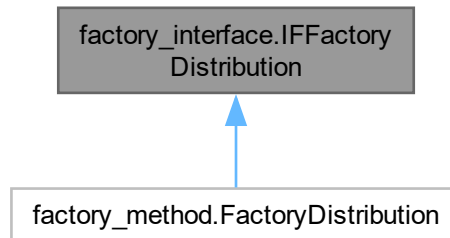
- [Crossover](#) **createCrossover** ([CrossoverType](#) Crossovertype) throws [IllegalArgumentException](#), [SecurityException](#), [ClassNotFoundException](#), [InstantiationException](#), [IllegalAccessException](#), [InvocationTargetException](#), [NoSuchMethodException](#)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFFactoryCrossover.java

## 5.56 factory\_interface.IFactoryDistribution Interface Reference

Inheritance diagram for factory\_interface.IFactoryDistribution:



### Public Member Functions

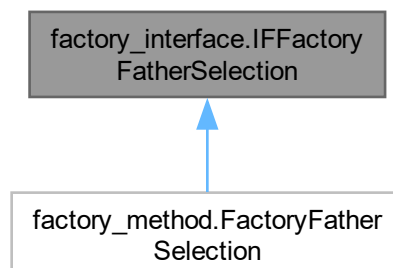
- [Distribution](#) **createDistribution** ([DistributionType](#) typedistribution) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFactoryDistribution.java

## 5.57 factory\_interface.IFactoryFatherSelection Interface Reference

Inheritance diagram for factory\_interface.IFactoryFatherSelection:



### Public Member Functions

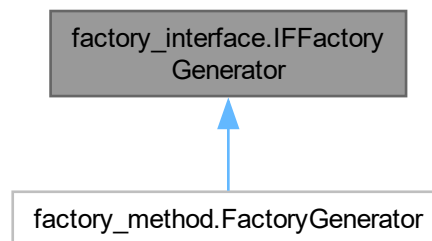
- [FatherSelection](#) **createSelectFather** ([SelectionType](#) selectionType) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFFactoryFatherSelection.java

## 5.58 factory\_interface.IFFactoryGenerator Interface Reference

Inheritance diagram for factory\_interface.IFFactoryGenerator:



### Public Member Functions

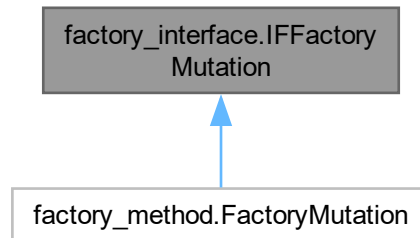
- [Generator](#) **createGenerator** ([GeneratorType](#) Generatortype) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFFactoryGenerator.java

## 5.59 factory\_interface.IFactoryMutation Interface Reference

Inheritance diagram for factory\_interface.IFactoryMutation:



### Public Member Functions

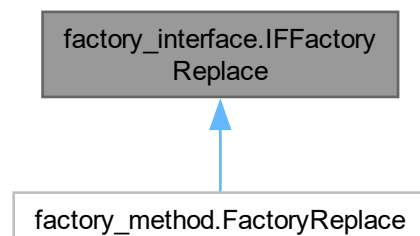
- [Mutation](#) **createMutation** ([MutationType](#) typeMutation) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFactoryMutation.java

## 5.60 factory\_interface.IFactoryReplace Interface Reference

Inheritance diagram for factory\_interface.IFactoryReplace:



**Public Member Functions**

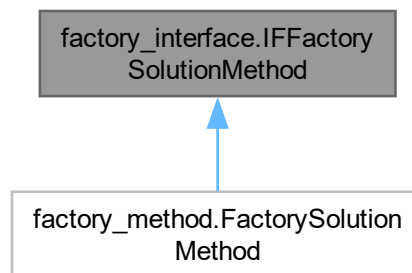
- **Replace createReplace** ([ReplaceType](#) typereplace) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_interface/IFFactoryReplace.java`

**5.61 factory\_interface.IFFactorySolutionMethod Interface Reference**

Inheritance diagram for `factory_interface.IFFactorySolutionMethod`:

**Public Member Functions**

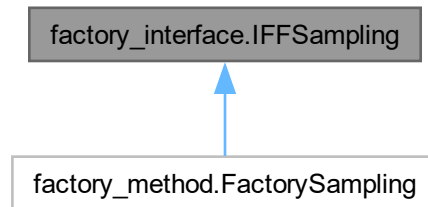
- **SolutionMethod createdSolutionMethod** ([TypeSolutionMethod](#) method) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory_interface/IFFactorySolutionMethod.java`

## 5.62 factory\_interface.IFFSampling Interface Reference

Inheritance diagram for factory\_interface.IFFSampling:



### Public Member Functions

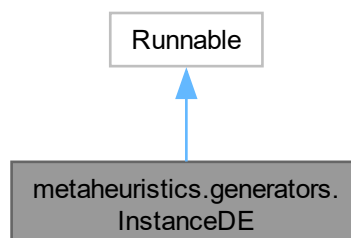
- [Sampling](#) **createSampling** ([SamplingType](#) typesampling) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/factory\_interface/IFFSampling.java

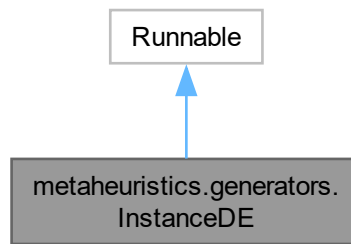
## 5.63 metaheuristics.generators.InstanceDE Class Reference

Inheritance diagram for metaheuristics.generators.InstanceDE:





Collaboration diagram for metaheuristics.generators.InstanceDE:



#### Public Member Functions

- void **run** ()
- boolean **isTerminate** ()
- void **setTerminate** (boolean terminate)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/InstanceDE.java

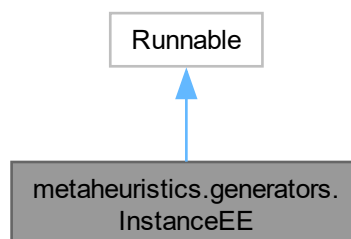
## 5.64 metaheuristics.generators.InstanceDETest Class Reference

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

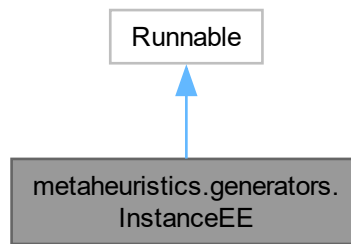
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/InstanceDETest.java

## 5.65 metaheuristics.generators.InstanceEE Class Reference

Inheritance diagram for metaheuristics.generators.InstanceEE:



Collaboration diagram for `metaheuristics.generators.InstanceEE`:



#### Public Member Functions

- void **run** ()
- boolean **isTerminate** ()
- void **setTerminate** (boolean terminate)

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/InstanceEE.java`

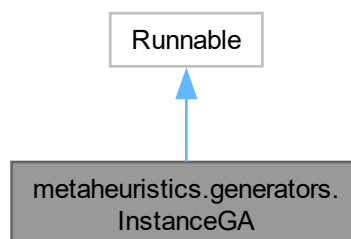
## 5.66 `metaheuristics.generators.InstanceEETest` Class Reference

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

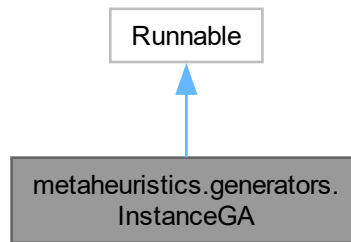
- `C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/InstanceEETest.java`

## 5.67 `metaheuristics.generators.InstanceGA` Class Reference

Inheritance diagram for `metaheuristics.generators.InstanceGA`:



Collaboration diagram for metaheuristics.generators.InstanceGA:



#### Public Member Functions

- void **run** ()
- boolean **isTerminate** ()
- void **setTerminate** (boolean terminate)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/InstanceGA.java

## 5.68 metaheuristics.generators.InstanceGATest Class Reference

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/InstanceGATest.java

## 5.69 metaheuristics.generators.InstanceTest Class Reference

#### Public Member Functions

- void **testInstanceGA** ()
- void **testInstanceEE** ()
- void **testInstanceDE** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/InstanceTest.java

## 5.70 metaheuristics.generators.LimitRoulette Class Reference

### Public Member Functions

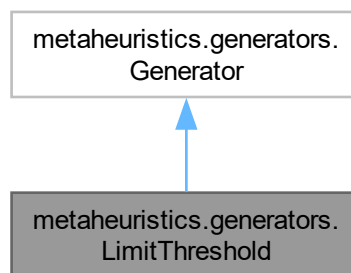
- [Generator](#) **getGenerator** ()
- void **setGenerator** ([Generator](#) generator)
- float **getLimitHigh** ()
- void **setLimitHigh** (float limitHigh)
- float **getLimitLow** ()
- void **setLimitLow** (float limitLow)

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

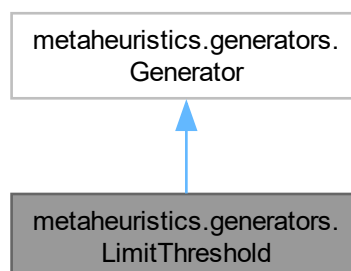
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/LimitRoulette.java

## 5.71 metaheuristics.generators.LimitThreshold Class Reference

Inheritance diagram for metaheuristics.generators.LimitThreshold:



Collaboration diagram for metaheuristics.generators.LimitThreshold:



**Public Member Functions**

- [GeneratorType](#) **getTypeGenerator** ()
- void **setTypeGenerator** ([GeneratorType](#) typeGenerator)
- [State](#) **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [State](#) **getReference** ()
- void **setStateRef** ([State](#) stateRef)
- void **setInitialReference** ([State](#) stateInitialRef)
- [GeneratorType](#) **getType** ()
- List< [State](#) > **getReferenceList** ()
- List< [State](#) > **getSonList** ()
- void **setTypeCandidate** ([CandidateType](#) typeCandidate)
- boolean **awardUpdateREF** ([State](#) stateCandidate)
- float **getWeight** ()
- void **setWeight** (float weight)
- int[] **getListCountBetterGender** ()
- int[] **getListCountGender** ()
- float[] **getTrace** ()

**Static Public Attributes**

- static int **countGender** = 0
- static int **countBetterGender** = 0

**Additional Inherited Members****Public Attributes inherited from [metaheuristics.generators.Generator](#)**

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

**5.71.1 Member Function Documentation****5.71.1.1 awardUpdateREF()**

```
boolean metaheuristics.generators.LimitThreshold.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.2 generate()

`State` metaheuristics.generators.LimitThreshold.generate (   
 Integer *operatornumber*) throws IllegalArgumentException, SecurityException, Class↵  
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,   
NoSuchMethodException

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.3 getListCountBetterGender()

`int[]` metaheuristics.generators.LimitThreshold.getListCountBetterGender ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.4 getListCountGender()

`int[]` metaheuristics.generators.LimitThreshold.getListCountGender ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.5 getReference()

`State` metaheuristics.generators.LimitThreshold.getReference ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.6 getReferenceList()

`List< State >` metaheuristics.generators.LimitThreshold.getReferenceList ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.7 getSonList()

`List< State >` metaheuristics.generators.LimitThreshold.getSonList ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.8 getTrace()

`float[]` metaheuristics.generators.LimitThreshold.getTrace ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.9 `getType()`

`GeneratorType` metaheuristics.generators.LimitThreshold.getType ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.10 `getWeight()`

`float` metaheuristics.generators.LimitThreshold.getWeight ()

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.11 `setInitialReference()`

`void` metaheuristics.generators.LimitThreshold.setInitialReference (  
    `State` *stateInitialRef*)

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.12 `setWeight()`

`void` metaheuristics.generators.LimitThreshold.setWeight (  
    `float` *weight*)

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.71.1.13 `updateReference()`

`void` metaheuristics.generators.LimitThreshold.updateReference (  
    `State` *stateCandidate*,  
    `Integer` *countIterationsCurrent*) throws `IllegalArgumentException`, `SecurityException`,  
`ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`,  
`Exception`, `NoSuchMethodException`

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/LimitThreshold.java

## 5.72 metaheuristics.generators.LimitThresholdTest Class Reference

### Public Member Functions

- `void` **setUp** ()
- `void` **testInitialization** ()
- `void` **testGenerate** () throws `Exception`
- `void` **testUpdateReference** () throws `Exception`

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/LimitThresholdTest.java

## 5.73 problem.extension.MetricasMultiobjetivo Class Reference

### Public Member Functions

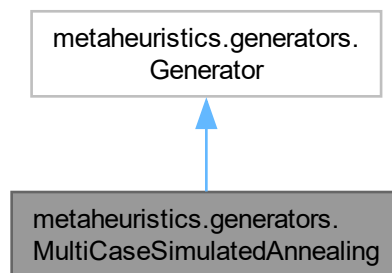
- double **TasaError** (List< [State](#) > solutionsFPcurrent, List< [State](#) > solutionsFPtrue) throws BiffException, IOException
- double **DistanciaGeneracional** (List< [State](#) > solutionsFPcurrent, List< [State](#) > solutionsFPtrue) throws BiffException, IOException
- double **Dispersion** (ArrayList< [State](#) > solutions) throws BiffException, IOException
- double **CalcularMin** (ArrayList< Double > allMetrics)
- double **CalcularMax** (ArrayList< Double > allMetrics)
- double **CalcularMedia** (ArrayList< Double > allMetrics)

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

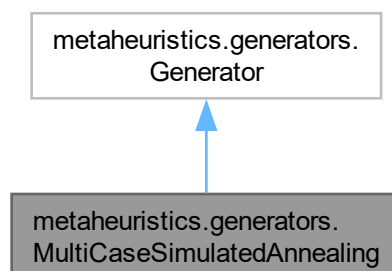
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/extension/MetricasMultiobjetivo.java

## 5.74 metaheuristics.generators.MultiCaseSimulatedAnnealing Class Reference

Inheritance diagram for metaheuristics.generators.MultiCaseSimulatedAnnealing:



Collaboration diagram for metaheuristics.generators.MultiCaseSimulatedAnnealing:





## Public Member Functions

- [GeneratorType](#) **getTypeGenerator** ()
- void **setTypeGenerator** ([GeneratorType](#) typeGenerator)
- [State](#) **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [State](#) **getReference** ()
- void **setStateRef** ([State](#) stateRef)
- void **setInitialReference** ([State](#) stateInitialRef)
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [GeneratorType](#) **getType** ()
- List< [State](#) > **getReferenceList** ()
- List< [State](#) > **getSonList** ()
- boolean **awardUpdateREF** ([State](#) stateCandidate)
- float **getWeight** ()
- void **setWeight** (float weight)
- int[] **getListCountBetterGender** ()
- int[] **getListCountGender** ()
- float[] **getTrace** ()

## Static Public Attributes

- static Double **alpha**
- static Double **tinitial**
- static Double **tfinal**
- static int **countIterationsT**

## Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.74.1 Member Function Documentation

### 5.74.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.MultiCaseSimulatedAnnealing.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.2 generate()

`State` metaheuristics.generators.MultiCaseSimulatedAnnealing.generate (   
 Integer *operatornumber*) throws IllegalArgumentException, SecurityException, Class↔  
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
NoSuchMethodException

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.3 getListCountBetterGender()

`int[]` metaheuristics.generators.MultiCaseSimulatedAnnealing.getListCountBetterGender ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.4 getListCountGender()

`int[]` metaheuristics.generators.MultiCaseSimulatedAnnealing.getListCountGender ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.5 getReference()

`State` metaheuristics.generators.MultiCaseSimulatedAnnealing.getReference ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.6 getReferenceList()

`List< State >` metaheuristics.generators.MultiCaseSimulatedAnnealing.getReferenceList ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.7 getSonList()

`List< State >` metaheuristics.generators.MultiCaseSimulatedAnnealing.getSonList ()

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.74.1.8 getTrace()

`float[]` metaheuristics.generators.MultiCaseSimulatedAnnealing.getTrace ()

Reimplemented from [metaheuristics.generators.Generator](#).

**5.74.1.9 getType()**

`GeneratorType metaheuristics.generators.MultiCaseSimulatedAnnealing.getType ()`

Reimplemented from [metaheuristics.generators.Generator](#).

**5.74.1.10 getWeight()**

`float metaheuristics.generators.MultiCaseSimulatedAnnealing.getWeight ()`

Reimplemented from [metaheuristics.generators.Generator](#).

**5.74.1.11 setInitialReference()**

`void metaheuristics.generators.MultiCaseSimulatedAnnealing.setInitialReference (State stateInitialRef)`

Reimplemented from [metaheuristics.generators.Generator](#).

**5.74.1.12 setWeight()**

`void metaheuristics.generators.MultiCaseSimulatedAnnealing.setWeight (float weight)`

Reimplemented from [metaheuristics.generators.Generator](#).

**5.74.1.13 updateReference()**

`void metaheuristics.generators.MultiCaseSimulatedAnnealing.updateReference (State stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException`

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/MultiCaseSimulatedAnnealing.java

## 5.75 metaheuristics.generators.MultiCaseSimulatedAnnealingTest Class Reference

**Public Member Functions**

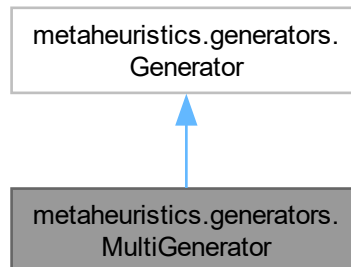
- void **setUp** ()
- void **testInitialization** ()
- void **testGenerate** () throws Exception
- void **testUpdateReference\_Cooling** () throws Exception

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

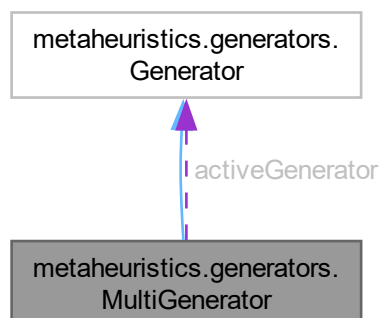
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/MultiCaseSimulatedAnnealingTest.java

## 5.76 metaheuristics.generators.MultiGenerator Class Reference

Inheritance diagram for metaheuristics.generators.MultiGenerator:



Collaboration diagram for metaheuristics.generators.MultiGenerator:



### Public Member Functions

- void **setGeneratortype** ([GeneratorType](#) generatortype)
- [State](#) **generate** (Integer operatornumber) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- [State](#) **getReference** ()
- List< [State](#) > **getReferenceList** ()
- List< [State](#) > **getSonList** ()
- [GeneratorType](#) **getType** ()
- void **setInitialReference** ([State](#) stateInitialRef)
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`

- void **updateWeight** ([State](#) stateCandidate)
- boolean **searchState** ([State](#) stateCandidate)
- float **getWeight** ()
- [Generator](#) **roulette** ()
- boolean **awardUpdateREF** ([State](#) stateCandidate)
- void **updateAwardSC** ()
- void **updateAwardImp** ()
- void **setWeight** (float weight)
- float[] **getTrace** ()
- void **tournament** ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- Object **clone** ()
- int[] **getListCountBetterGender** ()
- int[] **getListCountGender** ()

### Static Public Member Functions

- static void **destroyMultiGenerator** ()
- static void **initializeListGenerator** () throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- static void **initializeGenerators** () throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- static void **createInstanceGeneratorsBPP** ()
- static [Generator](#)[] **getListGenerators** ()
- static void **setListGenerators** ([Generator](#)[] listGenerators)
- static [Generator](#) **getActiveGenerator** ()
- static void **setActiveGenerator** ([Generator](#) activeGenerator)
- static void **setListGeneratedPP** (List< [State](#) > listGeneratedPP)

### Static Public Attributes

- static List< [State](#) > **listGeneratedPP** = new ArrayList<[State](#)> ()
- static [Generator](#) **activeGenerator**
- static List< [State](#) > **listStateReference** = new ArrayList<[State](#)>()

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.76.1 Member Function Documentation

### 5.76.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.MultiGenerator.awardUpdateREF (  
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.76.1.2 generate()

```
State metaheuristics.generators.MultiGenerator.generate (  
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↵  
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.76.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.MultiGenerator.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.76.1.4 getListCountGender()

```
int[] metaheuristics.generators.MultiGenerator.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.76.1.5 getReference()

```
State metaheuristics.generators.MultiGenerator.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.76.1.6 getReferenceList()

```
List< State > metaheuristics.generators.MultiGenerator.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.76.1.7 getSonList()

```
List< State > metaheuristics.generators.MultiGenerator.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.76.1.8 getTrace()

```
float[] metaheuristics.generators.MultiGenerator.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.76.1.9 getType()

```
GeneratorType metaheuristics.generators.MultiGenerator.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.76.1.10 getWeight()

```
float metaheuristics.generators.MultiGenerator.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.76.1.11 setInitialReference()

```
void metaheuristics.generators.MultiGenerator.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.76.1.12 setWeight()

```
void metaheuristics.generators.MultiGenerator.setWeight (  
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.76.1.13 updateReference()

```
void metaheuristics.generators.MultiGenerator.updateReference (  
    State stateCandidate,  
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,  
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/MultiGenerator.java

## 5.77 metaheuristics.generators.MultiGeneratorTest Class Reference

### Public Member Functions

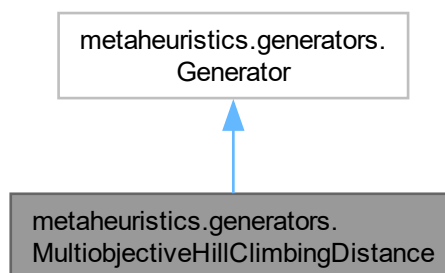
- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testGenerate** () throws Exception
- void **testUpdateReference** () throws Exception
- void **testGetType** ()
- void **testRoulette** ()
- void **testUpdateAwardSC** ()
- void **testUpdateAwardImp** ()
- void **testTournament** () throws Exception
- void **testInitializeGenerators** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/MultiGeneratorTest.java

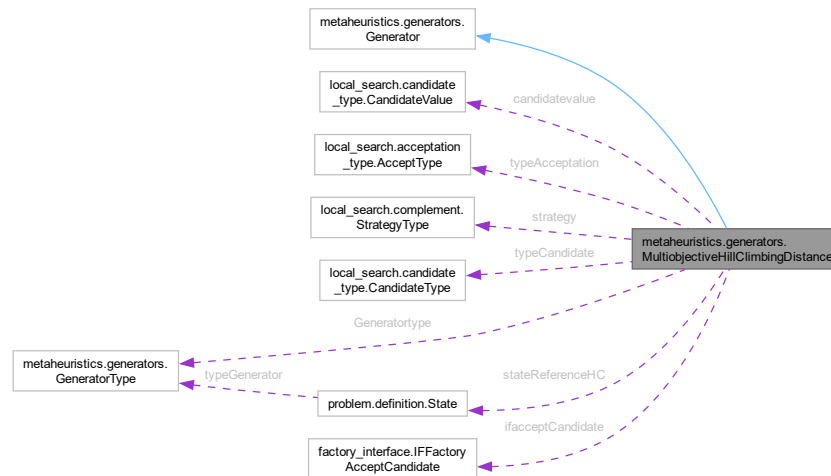
## 5.78 metaheuristics.generators.MultiobjectiveHillClimbingDistance Class Reference

Inheritance diagram for metaheuristics.generators.MultiobjectiveHillClimbingDistance:





Collaboration diagram for metaheuristics.generators.MultiobjectiveHillClimbingDistance:



## Public Member Functions

- [State](#) [generate](#) (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- void [updateReference](#) ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< [State](#) > [getReferenceList](#) ()
- [State](#) [getReference](#) ()
- void [setStateRef](#) ([State](#) stateRef)
- void [setInitialReference](#) ([State](#) stateInitialRef)
- [GeneratorType](#) [getGeneratorType](#) ()
- void [setGeneratorType](#) ([GeneratorType](#) Generatortype)
- [GeneratorType](#) [getType](#) ()
- List< [State](#) > [getSonList](#) ()
- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()
- float[] [getTrace](#) ()

## Static Public Member Functions

- static List< Double > [DistanceCalculateAdd](#) (List< [State](#) > solution)

## Static Public Attributes

- static int [sizeNeighbors](#)
- static List< Double > [distanceSolution](#) = new ArrayList<Double>()

### Protected Attributes

- [CandidateValue](#) **candidatevalue**
- [AcceptType](#) **typeAcceptation**
- [StrategyType](#) **strategy**
- [CandidateType](#) **typeCandidate**
- [State](#) **stateReferenceHC**
- [IFFactoryAcceptCandidate](#) **ifacceptCandidate**
- [GeneratorType](#) **Generatortype**
- List< [State](#) > **listStateReference** = new ArrayList<[State](#)>()
- float **weight**
- List< Float > **listTrace** = new ArrayList<Float>()

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.78.1 Member Function Documentation

### 5.78.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.MultiobjectiveHillClimbingDistance.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.78.1.2 generate()

```
State metaheuristics.generators.MultiobjectiveHillClimbingDistance.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↔
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.78.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.MultiobjectiveHillClimbingDistance.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.4 getListCountGender()

```
int[] metaheuristics.generators.MultiobjectiveHillClimbingDistance.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.5 getReference()

```
State metaheuristics.generators.MultiobjectiveHillClimbingDistance.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.6 getReferenceList()

```
List< State > metaheuristics.generators.MultiobjectiveHillClimbingDistance.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.7 getSonList()

```
List< State > metaheuristics.generators.MultiobjectiveHillClimbingDistance.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.8 getTrace()

```
float[] metaheuristics.generators.MultiobjectiveHillClimbingDistance.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.9 getType()

```
GeneratorType metaheuristics.generators.MultiobjectiveHillClimbingDistance.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.10 getWeight()

```
float metaheuristics.generators.MultiobjectiveHillClimbingDistance.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.78.1.11 setInitialReference()

```
void metaheuristics.generators.MultiobjectiveHillClimbingDistance.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.78.1.12 setWeight()**

```
void metaheuristics.generators.MultiobjectiveHillClimbingDistance.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.78.1.13 updateReference()**

```
void metaheuristics.generators.MultiobjectiveHillClimbingDistance.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/MultiobjectiveHillClimbingDistance.↵  
java

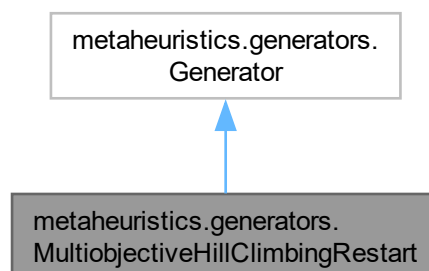
**5.79 metaheuristics.generators.MultiobjectiveHillClimbingDistanceTest Class Reference**

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

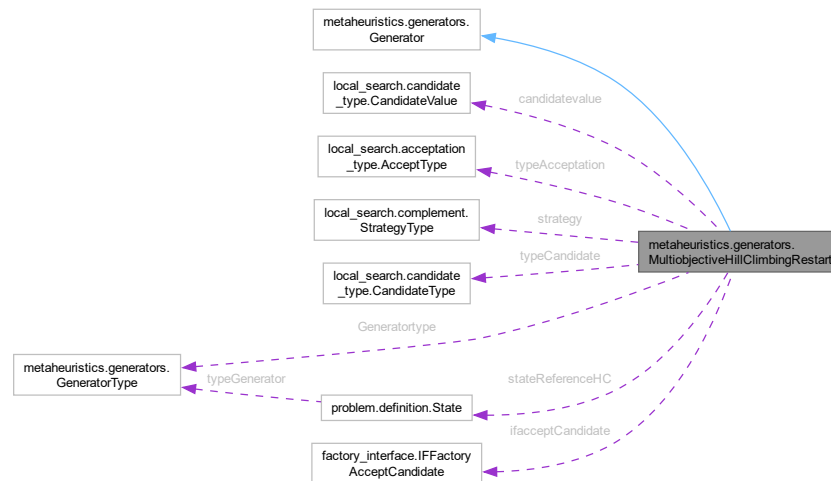
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/MultiobjectiveHillClimbingDistance↵  
Test.java

**5.80 metaheuristics.generators.MultiobjectiveHillClimbingRestart Class Reference**

Inheritance diagram for metaheuristics.generators.MultiobjectiveHillClimbingRestart:



Collaboration diagram for metaheuristics.generators.MultiobjectiveHillClimbingRestart:



## Public Member Functions

- **State** [generate](#) (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- void [updateReference](#) (State stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< **State** > [getReferenceList](#) ()
- **State** [getReference](#) ()
- void [setStateRef](#) (State stateRef)
- void [setInitialReference](#) (State stateInitialRef)
- **GeneratorType** [getGeneratorType](#) ()
- void [setGeneratorType](#) (**GeneratorType** Generatortype)
- **GeneratorType** [getType](#) ()
- List< **State** > [getSonList](#) ()
- boolean [awardUpdateREF](#) (State stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- float[] [getTrace](#) ()
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()

## Static Public Attributes

- static int **sizeNeighbors**

## Protected Attributes

- [CandidateValue](#) **candidatevalue**
- [AcceptType](#) **typeAcceptation**
- [StrategyType](#) **strategy**
- [CandidateType](#) **typeCandidate**
- [State](#) **stateReferenceHC**
- [IFFactoryAcceptCandidate](#) **ifacceptCandidate**
- [GeneratorType](#) **Generatortype**
- List< [State](#) > **listStateReference** = new ArrayList<[State](#)>()
- float **weight**
- List< Float > **listTrace** = new ArrayList<Float>()

## Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.80.1 Member Function Documentation

### 5.80.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.MultiobjectiveHillClimbingRestart.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.80.1.2 generate()

```
State metaheuristics.generators.MultiobjectiveHillClimbingRestart.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↔
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.80.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.MultiobjectiveHillClimbingRestart.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.4 getListCountGender()

```
int[] metaheuristics.generators.MultiobjectiveHillClimbingRestart.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.5 getReference()

```
State metaheuristics.generators.MultiobjectiveHillClimbingRestart.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.6 getReferenceList()

```
List< State > metaheuristics.generators.MultiobjectiveHillClimbingRestart.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.7 getSonList()

```
List< State > metaheuristics.generators.MultiobjectiveHillClimbingRestart.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.8 getTrace()

```
float[] metaheuristics.generators.MultiobjectiveHillClimbingRestart.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.9 getType()

```
GeneratorType metaheuristics.generators.MultiobjectiveHillClimbingRestart.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.10 getWeight()

```
float metaheuristics.generators.MultiobjectiveHillClimbingRestart.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.80.1.11 setInitialReference()

```
void metaheuristics.generators.MultiobjectiveHillClimbingRestart.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.80.1.12 setWeight()**

```
void metaheuristics.generators.MultiobjectiveHillClimbingRestart.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.80.1.13 updateReference()**

```
void metaheuristics.generators.MultiobjectiveHillClimbingRestart.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/MultiobjectiveHillClimbingRestart.java

## 5.81 metaheuristics.generators.MultiobjectiveHillClimbingRestartTest

### Class Reference

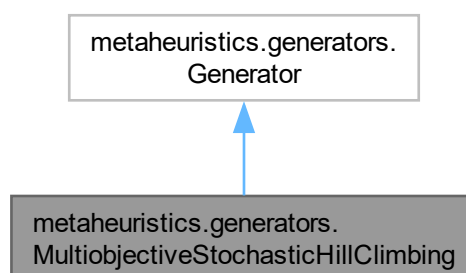
The documentation for this class was generated from the following file:

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/MultiobjectiveHillClimbingRestartTest.java

## 5.82 metaheuristics.generators.MultiobjectiveStochasticHillClimbing

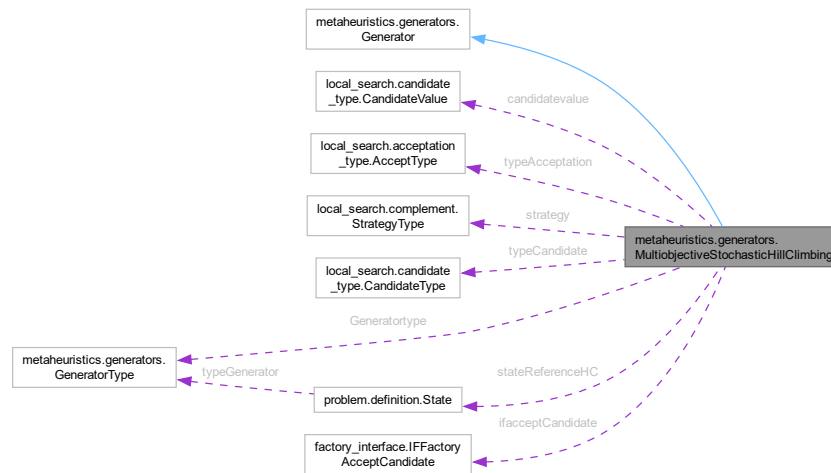
### Class Reference

Inheritance diagram for metaheuristics.generators.MultiobjectiveStochasticHillClimbing:





Collaboration diagram for metaheuristics.generators.MultiobjectiveStochasticHillClimbing:



## Public Member Functions

- **State** [generate](#) (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- void [updateReference](#) (State stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- List< **State** > [getReferenceList](#) ()
- **State** [getReference](#) ()
- void **setStateRef** (State stateRef)
- void [setInitialReference](#) (State stateInitialRef)
- **GeneratorType** [getGeneratorType](#) ()
- void **setGeneratorType** (GeneratorType Generatortype)
- **GeneratorType** [getType](#) ()
- List< **State** > [getSonList](#) ()
- boolean [awardUpdateREF](#) (State stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- float[] [getTrace](#) ()
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()

## Protected Attributes

- **CandidateValue** candidatevalue
- **AcceptType** typeAcceptation
- **StrategyType** strategy
- **CandidateType** typeCandidate
- **State** stateReferenceHC
- **IFactoryAcceptCandidate** ifacceptCandidate
- **GeneratorType** Generatortype
- List< **State** > **listStateReference** = new ArrayList<State>()
- float **weight**
- List< Float > **listTrace** = new ArrayList<Float>()

## Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.82.1 Member Function Documentation

### 5.82.1.1 **awardUpdateREF()**

```
boolean metaheuristics.generators.MultiobjectiveStochasticHillClimbing.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.82.1.2 **generate()**

```
State metaheuristics.generators.MultiobjectiveStochasticHillClimbing.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↔
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.82.1.3 **getListCountBetterGender()**

```
int[] metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getListCountBetterGender
()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.82.1.4 **getListCountGender()**

```
int[] metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.82.1.5 **getReference()**

```
State metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.6 getReferenceList()

```
List< State > metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getReferenceList  
()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.7 getSonList()

```
List< State > metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.8 getTrace()

```
float[] metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.9 getType()

```
GeneratorType metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.10 getWeight()

```
float metaheuristics.generators.MultiobjectiveStochasticHillClimbing.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.11 setInitialReference()

```
void metaheuristics.generators.MultiobjectiveStochasticHillClimbing.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.82.1.12 setWeight()

```
void metaheuristics.generators.MultiobjectiveStochasticHillClimbing.setWeight (  
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.82.1.13 updateReference()

```
void metaheuristics.generators.MultiobjectiveStochasticHillClimbing.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/MultiobjectiveStochasticHillClimbing.java

## 5.83 metaheuristics.generators.MultiobjectiveStochasticHillClimbing Test Class Reference

### Public Member Functions

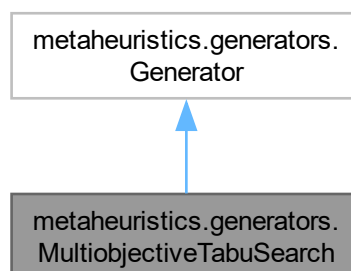
- void **setUp** ()
- void **testInitialization** ()
- void **testGenerate** () throws Exception
- void **testUpdateReference** () throws Exception

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

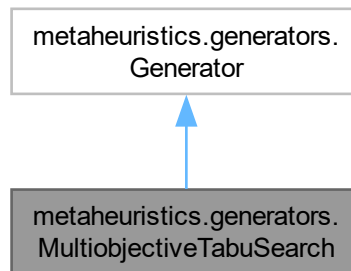
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/MultiobjectiveStochasticHillClimbingTest.java

## 5.84 metaheuristics.generators.MultiobjectiveTabuSearch Class Reference

Inheritance diagram for metaheuristics.generators.MultiobjectiveTabuSearch:



Collaboration diagram for metaheuristics.generators.MultiobjectiveTabuSearch:



### Public Member Functions

- [State](#) **getStateReferenceTS** ()
- void **setStateReferenceTS** ([State](#) stateReferenceTS)
- [GeneratorType](#) **getTypeGenerator** ()
- void **setTypeGenerator** ([GeneratorType](#) typeGenerator)
- [State](#) **generate** (Integer operatornumber) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- [GeneratorType](#) **getType** ()
- List< [State](#) > **getReferenceList** ()
- [State](#) **getReference** ()
- void **setInitialReference** ([State](#) stateInitialRef)
- void **setStateRef** ([State](#) stateRef)
- List< [State](#) > **getSonList** ()
- void **setTypeCandidate** ([CandidateType](#) typeCandidate)
- boolean **awardUpdateREF** ([State](#) stateCandidate)
- float **getWeight** ()
- void **setWeight** (float weight)
- int[] **getListCountBetterGender** ()
- int[] **getListCountGender** ()
- float[] **getTrace** ()

### Additional Inherited Members

#### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.84.1 Member Function Documentation

### 5.84.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.MultiobjectiveTabuSearch.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.84.1.2 generate()

```
State metaheuristics.generators.MultiobjectiveTabuSearch.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↵
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.84.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.MultiobjectiveTabuSearch.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.84.1.4 getListCountGender()

```
int[] metaheuristics.generators.MultiobjectiveTabuSearch.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.84.1.5 getReference()

```
State metaheuristics.generators.MultiobjectiveTabuSearch.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.84.1.6 getReferenceList()

```
List< State > metaheuristics.generators.MultiobjectiveTabuSearch.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.84.1.7 getSonList()

```
List< State > metaheuristics.generators.MultiobjectiveTabuSearch.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.84.1.8 getTrace()

```
float[] metaheuristics.generators.MultiobjectiveTabuSearch.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.84.1.9 getType()

```
GeneratorType metaheuristics.generators.MultiobjectiveTabuSearch.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.84.1.10 getWeight()

```
float metaheuristics.generators.MultiobjectiveTabuSearch.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.84.1.11 setInitialReference()

```
void metaheuristics.generators.MultiobjectiveTabuSearch.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.84.1.12 setWeight()

```
void metaheuristics.generators.MultiobjectiveTabuSearch.setWeight (  
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.84.1.13 updateReference()

```
void metaheuristics.generators.MultiobjectiveTabuSearch.updateReference (  
    State stateCandidate,  
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,  
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,  
    Exception, NoSuchMethodException
```

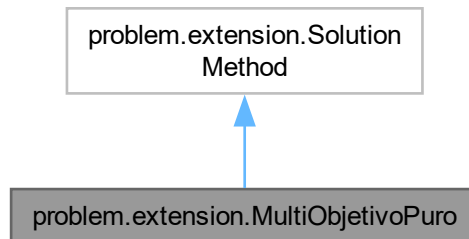
Reimplemented from [metaheuristics.generators.Generator](#).

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

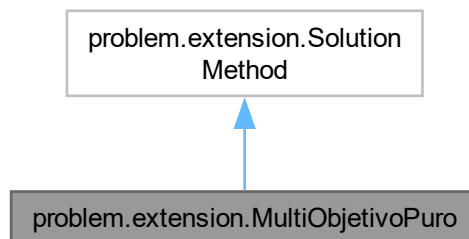
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/MultiobjectiveTabuSearch.java

## 5.85 problem.extension.MultiObjetivoPuro Class Reference

Inheritance diagram for problem.extension.MultiObjetivoPuro:



Collaboration diagram for problem.extension.MultiObjetivoPuro:



### Public Member Functions

- void [evaluationState](#) ([State](#) state)

### 5.85.1 Member Function Documentation

#### 5.85.1.1 [evaluationState\(\)](#)

```
void problem.extension.MultiObjetivoPuro.evaluationState (  
    State state)
```

Reimplemented from [problem.extension.SolutionMethod](#).

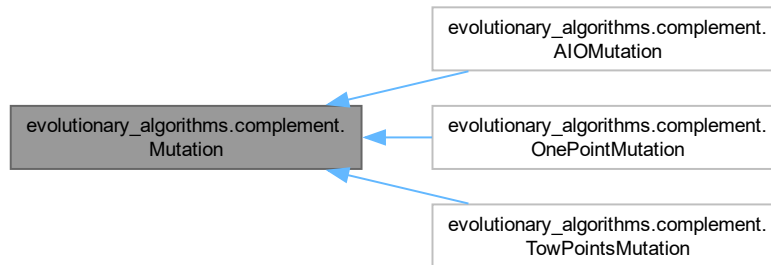
The documentation for this class was generated from the following file:

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/extension/MultiObjetivoPuro.java



## 5.86 evolutionary\_algorithms.complement.Mutation Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.Mutation:



### Public Member Functions

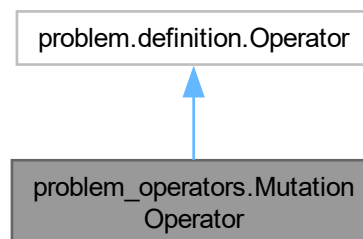
- abstract [State mutation](#) ([State](#) state, double PM)

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

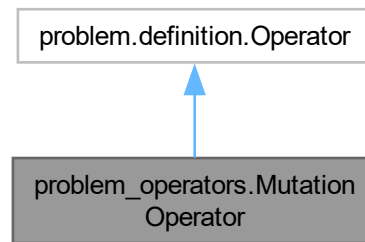
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Mutation.java

## 5.87 problem\_operators.MutationOperator Class Reference

Inheritance diagram for problem\_operators.MutationOperator:



Collaboration diagram for `problem_operators.MutationOperator`:



### Public Member Functions

- List< [State](#) > [generatedNewState](#) ([State](#) stateCurrent, Integer operatornumber)
- List< [State](#) > [generateRandomState](#) (Integer operatornumber)

## 5.87.1 Member Function Documentation

### 5.87.1.1 generatedNewState()

```
List< State > problem_operators.MutationOperator.generatedNewState (
    State stateCurrent,
    Integer operatornumber)
```

Reimplemented from [problem.definition.Operator](#).

### 5.87.1.2 generateRandomState()

```
List< State > problem_operators.MutationOperator.generateRandomState (
    Integer operatornumber)
```

Reimplemented from [problem.definition.Operator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem\_operators/MutationOperator.java

## 5.88 problem\_operators.MutationOperatorTest Class Reference

### Public Member Functions

- void **setUp** ()
- void **testGeneratedNewState** ()
- void **testGenerateRandomState** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem\_operators/MutationOperatorTest.java

## 5.89 evolutionary\_algorithms.complement.MutationType Enum Reference

### Public Attributes

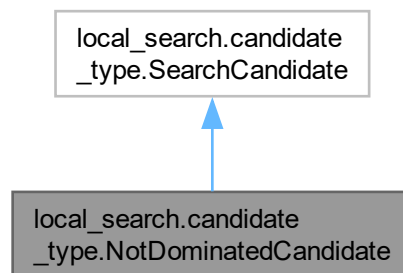
- **TowPointsMutation**
- **OnePointMutation**
- **AIOMutation**

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

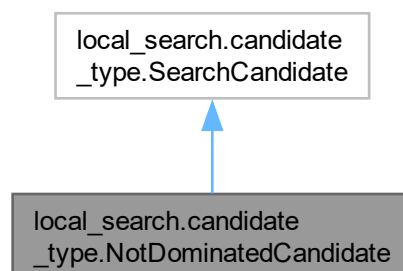
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/MutationType.java

## 5.90 local\_search.candidate\_type.NotDominatedCandidate Class Reference

Inheritance diagram for local\_search.candidate\_type.NotDominatedCandidate:



Collaboration diagram for local\_search.candidate\_type.NotDominatedCandidate:



## Public Member Functions

- [State candidate](#) ([State](#) stateReference, List< [State](#) > neighborhood)

## 5.90.1 Member Function Documentation

### 5.90.1.1 candidate()

```
State local_search.candidate_type.NotDominatedCandidate.candidate (  
    State stateReference,  
    List< State > neighborhood)
```

Implements [local\\_search.candidate\\_type.SearchCandidate](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/NotDominatedCandidate.java

## 5.91 problem.definition.ObjetiveFunction Class Reference

## Public Member Functions

- float **getWeight** ()
- void **setWeight** (float weight)
- [ProblemType](#) **getTypeProblem** ()
- void **setTypeProblem** ([ProblemType](#) typeProblem)
- abstract Double **Evaluation** ([State](#) state)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/definition/ObjetiveFunction.java

## 5.92 problem.definition.ObjetiveFunctionTest Class Reference

## Public Member Functions

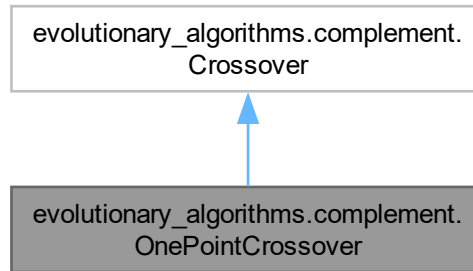
- void **testGettersAndSetters** ()

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

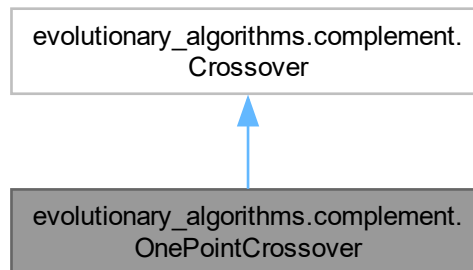
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem/definition/ObjetiveFunctionTest.java

## 5.93 evolutionary\_algorithms.complement.OnePointCrossover Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.OnePointCrossover:



Collaboration diagram for evolutionary\_algorithms.complement.OnePointCrossover:



### Public Member Functions

- [State crossover](#) ([State](#) father1, [State](#) father2, double PC)

### 5.93.1 Member Function Documentation

#### 5.93.1.1 crossover()

```
State evolutionary_algorithms.complement.OnePointCrossover.crossover (  
    State father1,
```

```
State father2,  
double PC)
```

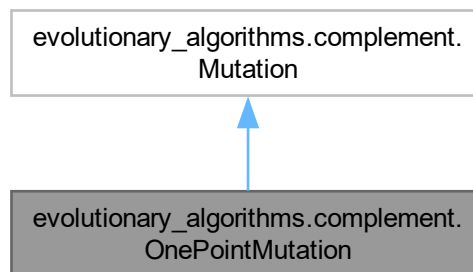
Reimplemented from [evolutionary\\_algorithms.complement.Crossover](#).

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

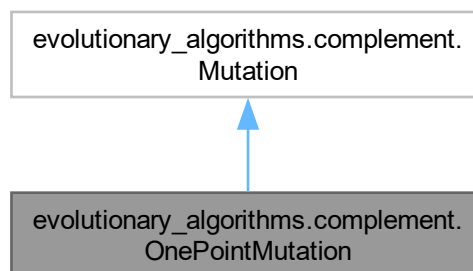
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/OnePointCrossover.java

## 5.94 evolutionary\_algorithms.complement.OnePointMutation Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.OnePointMutation:



Collaboration diagram for evolutionary\_algorithms.complement.OnePointMutation:



### Public Member Functions

- [State mutation](#) ([State](#) state, double PM)

## 5.94.1 Member Function Documentation

### 5.94.1.1 mutation()

```
State evolutionary_algorithms.complement.OnePointMutation.mutation (
    State state,
    double PM)
```

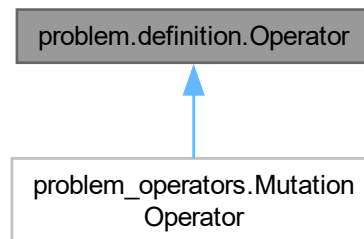
Reimplemented from [evolutionary\\_algorithms.complement.Mutation](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/OnePointMutation.java

## 5.95 problem.definition.Operator Class Reference

Inheritance diagram for problem.definition.Operator:



### Public Member Functions

- abstract List< [State](#) > **generatedNewState** ([State](#) stateCurrent, Integer operatornumber)
- abstract List< [State](#) > **generateRandomState** (Integer operatornumber)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/definition/Operator.java

## 5.96 problem.definition.OperatorTest Class Reference

### Public Member Functions

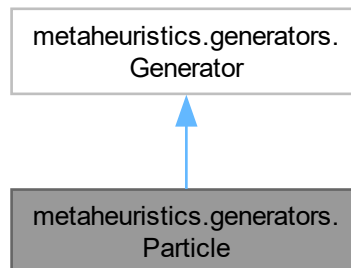
- void **testAbstractImplementation** ()

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

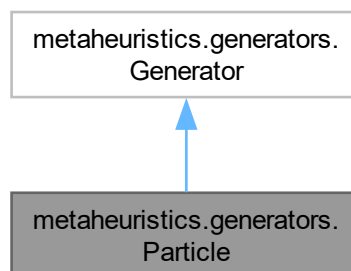
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem/definition/OperatorTest.java

## 5.97 metaheuristics.generators.Particle Class Reference

Inheritance diagram for metaheuristics.generators.Particle:



Collaboration diagram for metaheuristics.generators.Particle:



### Public Member Functions

- **Particle** ([State](#) statePBest, [State](#) stateActual, ArrayList< Object > velocity)
- ArrayList< Object > **getVelocity** ()
- void **setVelocity** (ArrayList< Object > velocity)
- [State](#) **getStatePBest** ()
- void **setStatePBest** ([State](#) statePBest)
- [State](#) **getStateActual** ()
- void **setStateActual** ([State](#) stateActual)
- [State](#) **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException



- [State](#) [getReference](#) ()
- void [setInitialReference](#) ([State](#) stateInitialRef)
- [GeneratorType](#) [getType](#) ()
- List< [State](#) > [getReferenceList](#) ()
- List< [State](#) > [getSonList](#) ()
- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- void [setWeight](#) (float weight)
- float [getWeight](#) ()
- float[] [getTrace](#) ()
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.97.1 Member Function Documentation

### 5.97.1.1 [awardUpdateREF\(\)](#)

```
boolean metaheuristics.generators.Particle.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.97.1.2 [generate\(\)](#)

```
State metaheuristics.generators.Particle.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class←
    NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.97.1.3 [getListCountBetterGender\(\)](#)

```
int[] metaheuristics.generators.Particle.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.97.1.4 [getListCountGender\(\)](#)

```
int[] metaheuristics.generators.Particle.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.5 `getReference()`

`State` `metaheuristics.generators.Particle.getReference ()`

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.6 `getReferenceList()`

`List< State >` `metaheuristics.generators.Particle.getReferenceList ()`

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.7 `getSonList()`

`List< State >` `metaheuristics.generators.Particle.getSonList ()`

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.8 `getTrace()`

`float[]` `metaheuristics.generators.Particle.getTrace ()`

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.9 `getType()`

`GeneratorType` `metaheuristics.generators.Particle.getType ()`

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.10 `getWeight()`

`float` `metaheuristics.generators.Particle.getWeight ()`

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.97.1.11 `setInitialReference()`

`void` `metaheuristics.generators.Particle.setInitialReference (`  
    `State stateInitialRef)`

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.97.1.12 setWeight()

```
void metaheuristics.generators.Particle.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.97.1.13 updateReference()

```
void metaheuristics.generators.Particle.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
Exception, NoSuchMethodException
```

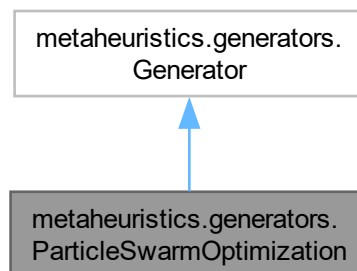
Reimplemented from [metaheuristics.generators.Generator](#).

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

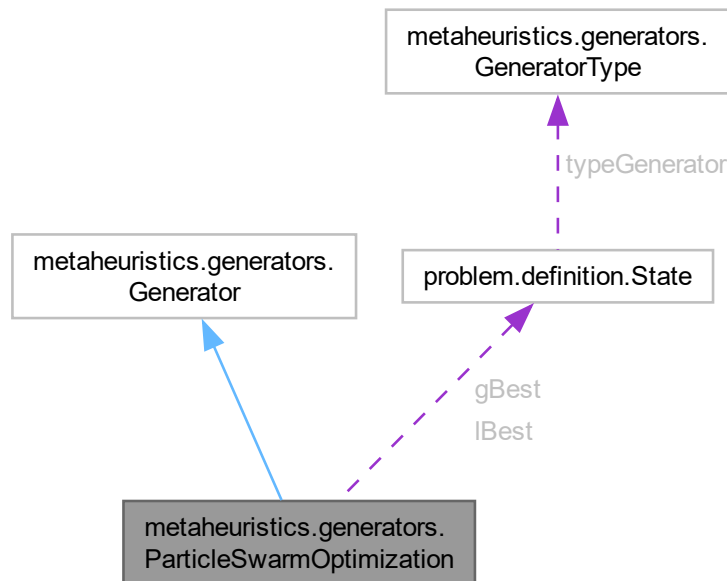
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/Particle.java

## 5.98 metaheuristics.generators.ParticleSwarmOptimization Class Reference

Inheritance diagram for metaheuristics.generators.ParticleSwarmOptimization:



Collaboration diagram for metaheuristics.generators.ParticleSwarmOptimization:



### Public Member Functions

- [State generate](#) (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- void **inicialiceLBest** ()
- [State getReference](#) ()
- [State getStateReferencePSO](#) ()
- void **setStateReferencePSO** ([State](#) stateReferencePSO)
- List< [Particle](#) > **getListStateReference** ()
- void **setListStateReference** (List< [State](#) > listStateReference)
- List< [Particle](#) > **getListParticle** ()
- List< [Particle](#) > **setListParticle** (List< [Particle](#) > listParticle)
- [GeneratorType getGeneratorType](#) ()
- void **setGeneratorType** ([GeneratorType](#) generatorType)
- void [updateReference](#) ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [State gBestInicial](#) ()
- void [setInitialReference](#) ([State](#) stateInitialRef)
- [GeneratorType getType](#) ()
- List< [State](#) > [getReferenceList](#) ()
- List< [State](#) > [getSonList](#) ()
- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- void [setWeight](#) (float weight)
- float [getWeight](#) ()
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()
- float[] [getTrace](#) ()

### Static Public Member Functions

- static int **getCountRef** ()
- static void **setCountRef** (int countRef)

### Static Public Attributes

- static int **countRef** = 0
- static int **countParticle** = 0
- static int **coutSwarm** = 0
- static int **countParticleBySwarm** = 0
- static double **wmax** = 0.9
- static double **wmin** = 0.2
- static int **learning1** = 2
- static int **learning2** = 2
- static double **constriction**
- static boolean **binary** = false
- static [State](#)[] **lBest**
- static [State](#) **gBest**
- static int **countCurrentIterPSO**
- static int **countGender** = 0
- static int **countBetterGender** = 0

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.98.1 Member Function Documentation

### 5.98.1.1 awardUpdateREF()

```
boolean metaheuristics.generators.ParticleSwarmOptimization.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.2 generate()

```
State metaheuristics.generators.ParticleSwarmOptimization.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↔
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.3 getListCountBetterGender()

```
int[] metaheuristics.generators.ParticleSwarmOptimization.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.4 getListCountGender()

```
int[] metaheuristics.generators.ParticleSwarmOptimization.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.5 getReference()

```
State metaheuristics.generators.ParticleSwarmOptimization.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.6 getReferenceList()

```
List< State > metaheuristics.generators.ParticleSwarmOptimization.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.7 getSonList()

```
List< State > metaheuristics.generators.ParticleSwarmOptimization.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.8 getTrace()

```
float[] metaheuristics.generators.ParticleSwarmOptimization.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.9 getType()

```
GeneratorType metaheuristics.generators.ParticleSwarmOptimization.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.98.1.10 getWeight()

```
float metaheuristics.generators.ParticleSwarmOptimization.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.98.1.11 setInitialReference()**

```
void metaheuristics.generators.ParticleSwarmOptimization.setInitialReference (
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.98.1.12 setWeight()**

```
void metaheuristics.generators.ParticleSwarmOptimization.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.98.1.13 updateReference()**

```
void metaheuristics.generators.ParticleSwarmOptimization.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/ParticleSwarmOptimization.java

## 5.99 metaheuristics.generators.ParticleSwarmOptimizationTest Class Reference

**Public Member Functions**

- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testGenerate** () throws Exception
- void **testGetType** ()
- void **testUpdateReference** () throws Exception
- void **testInicialiceLBest\_Maximizar** ()
- void **testInicialiceLBest\_Minimizar** ()
- void **testGetListStateRef\_FromRandomSearch** () throws Exception
- void **testGBestInicial\_Maximizar** ()
- void **testGBestInicial\_Minimizar** ()
- void **testUpdateReference\_Maximizar** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/ParticleSwarmOptimizationTest.java

## 5.100 metaheuristics.generators.ParticleTest Class Reference

### Public Member Functions

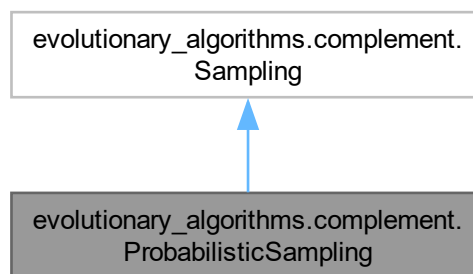
- void **setUp** ()
- void **testInitialization** ()
- void **testUpdateReference\_Maximization\_Improvement** () throws Exception
- void **testUpdateReference\_Minimization\_Improvement** () throws Exception
- void **testGenerate** () throws Exception

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

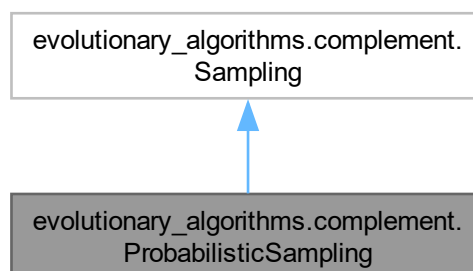
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/ParticleTest.java

## 5.101 evolutionary\_algorithms.complement.ProbabilisticSampling Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.ProbabilisticSampling:



Collaboration diagram for evolutionary\_algorithms.complement.ProbabilisticSampling:





### Public Member Functions

- List< [State](#) > [sampling](#) (List< [State](#) > fathers, int countInd)
- List< [State](#) > [listState](#) (int countInd)

## 5.101.1 Member Function Documentation

### 5.101.1.1 sampling()

```
List< State > evolutionary_algorithms.complement.ProbabilisticSampling.sampling (  
    List< State > fathers,  
    int countInd)
```

Reimplemented from [evolutionary\\_algorithms.complement.Sampling](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/ProbabilisticSampling.java

## 5.102 evolutionary\_algorithms.complement.Probability Class Reference

### Public Member Functions

- **Probability** (Probability probability)
- **Probability** (Object key, Object value, float probability)
- float **getProbability** ()
- void **setProbability** (float probability)
- Object **getKey** ()
- void **setKey** (Object key)
- Object **getValue** ()
- void **setValue** (Object value)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Probability.java

## 5.103 problem.definition.Problem Class Reference

### Classes

- enum [ProblemType](#)

**Public Member Functions**

- `ArrayList< ObjectiveFunction > getFunction ()`
- `void setFunction (ArrayList< ObjectiveFunction > function)`
- `State getState ()`
- `void setState (State state)`
- `ProblemType getTypeProblem ()`
- `void setTypeProblem (ProblemType typeProblem)`
- `Codification getCodification ()`
- `void setCodification (Codification codification)`
- `Operator getOperator ()`
- `void setOperator (Operator operator)`
- `int getPossibleValue ()`
- `void setPossibleValue (int possibleValue)`
- `void Evaluate (State state) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException`
- `TypeSolutionMethod getTypeSolutionMethod ()`
- `void setTypeSolutionMethod (TypeSolutionMethod typeSolutionMethod)`
- `IFFactorySolutionMethod getFactorySolutionMethod ()`
- `void setFactorySolutionMethod (IFFactorySolutionMethod factorySolutionMethod)`
- `SolutionMethod newSolutionMethod (TypeSolutionMethod typeSolutionMethod) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException`

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/definition/Problem.java`

**5.104 problem.definition.ProblemTest Class Reference****Public Member Functions**

- `void setUp ()`
- `void testGettersAndSetters ()`
- `void testEvaluateWithoutSolutionMethod () throws Exception`
- `void testEvaluateWithSolutionMethod () throws Exception`

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem/definition/ProblemTest.java`

**5.105 problem.definition.Problem.ProblemType Enum Reference****Public Attributes**

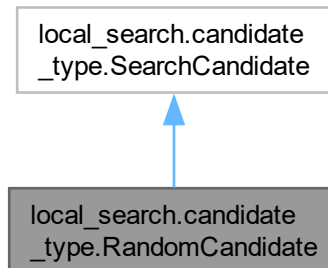
- **Maximizar**
- **Minimizar**

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

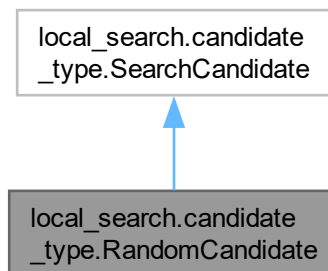
- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/definition/Problem.java`

## 5.106 local\_search.candidate\_type.RandomCandidate Class Reference

Inheritance diagram for local\_search.candidate\_type.RandomCandidate:



Collaboration diagram for local\_search.candidate\_type.RandomCandidate:



### Public Member Functions

- [State candidate](#) ([State](#) stateReference, List< [State](#) > neighborhood)

### 5.106.1 Member Function Documentation

#### 5.106.1.1 candidate()

```
State local_search.candidate_type.RandomCandidate.candidate (  
    State stateReference,  
    List< State > neighborhood)
```

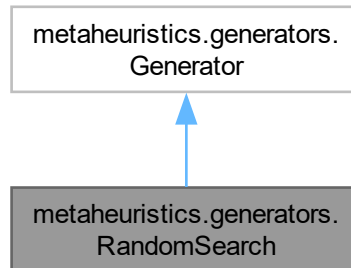
Implements [local\\_search.candidate\\_type.SearchCandidate](#).

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

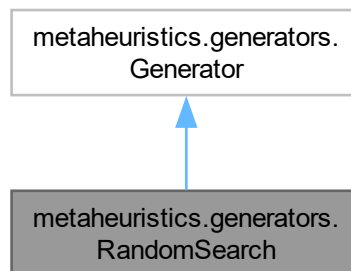
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/RandomCandidate.java

## 5.107 metaheuristics.generators.RandomSearch Class Reference

Inheritance diagram for metaheuristics.generators.RandomSearch:



Collaboration diagram for metaheuristics.generators.RandomSearch:



### Public Member Functions

- [State generate](#) (Integer operatornumber) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- [State getReference](#) ()
- void [setInitialReference](#) (State stateInitialRef)
- void [updateReference](#) (State stateCandidate, Integer countIterationsCurrent) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- [GeneratorType getType](#) ()
- [GeneratorType getTypeGenerator](#) ()
- void [setTypeGenerator](#) (GeneratorType typeGenerator)
- List< [State](#) > [getReferenceList](#) ()
- List< [State](#) > [getSonList](#) ()

- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()
- float[] [getTrace](#) ()

### Static Public Attributes

- static List< [State](#) > **listStateReference** = new ArrayList<[State](#)>()
- static int **countGender** = 0
- static int **countBetterGender** = 0

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.107.1 Member Function Documentation

### 5.107.1.1 [awardUpdateREF\(\)](#)

```
boolean metaheuristics.generators.RandomSearch.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.107.1.2 [generate\(\)](#)

```
State metaheuristics.generators.RandomSearch.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↵
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.107.1.3 [getListCountBetterGender\(\)](#)

```
int[] metaheuristics.generators.RandomSearch.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.4 getListCountGender()

```
int[] metaheuristics.generators.RandomSearch.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.5 getReference()

```
State metaheuristics.generators.RandomSearch.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.6 getReferenceList()

```
List< State > metaheuristics.generators.RandomSearch.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.7 getSonList()

```
List< State > metaheuristics.generators.RandomSearch.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.8 getTrace()

```
float[] metaheuristics.generators.RandomSearch.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.9 getType()

```
GeneratorType metaheuristics.generators.RandomSearch.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.10 getWeight()

```
float metaheuristics.generators.RandomSearch.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.107.1.11 setInitialReference()

```
void metaheuristics.generators.RandomSearch.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.107.1.12 setWeight()**

```
void metaheuristics.generators.RandomSearch.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.107.1.13 updateReference()**

```
void metaheuristics.generators.RandomSearch.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/RandomSearch.java

**5.108 metaheuristics.generators.RandomSearchTest Class Reference****Public Member Functions**

- void **setUp** ()
- void **testInitialization** ()
- void **testSetGetWeight** ()
- void **testGenerate** () throws Exception
- void **testUpdateReference** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/RandomSearchTest.java

**5.109 evolutionary\_algorithms.complement.Range Class Reference****Public Member Functions**

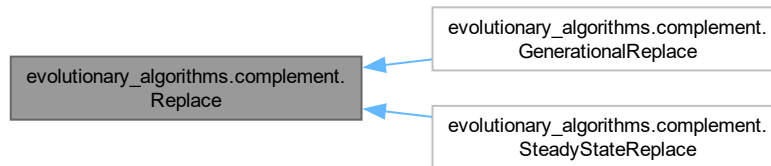
- [Probability](#) **getData** ()
- void **setData** ([Probability](#) data)
- float **getMax** ()
- void **setMax** (float max)
- float **getMin** ()
- void **setMin** (float min)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Range.java

## 5.110 evolutionary\_algorithms.complement.Replace Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.Replace:



### Public Member Functions

- abstract List< [State](#) > **replace** ([State](#) stateCandidate, List< [State](#) >listState) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Replace.java

## 5.111 evolutionary\_algorithms.complement.ReplaceType Enum Reference

### Public Attributes

- **SteadyStateReplace**
- **GenerationalReplace**

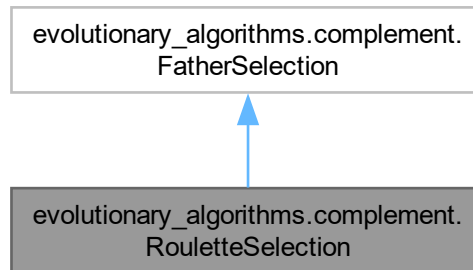
The documentation for this enum was generated from the following file:

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/ReplaceType.java

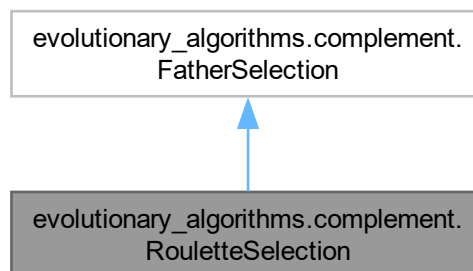


## 5.112 evolutionary\_algorithms.complement.RouletteSelection Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.RouletteSelection:



Collaboration diagram for evolutionary\_algorithms.complement.RouletteSelection:



### Public Member Functions

- `List< State > selection (List< State > listState, int truncation)`

### 5.112.1 Member Function Documentation

#### 5.112.1.1 selection()

```
List< State > evolutionary_algorithms.complement.RouletteSelection.selection (  
    List< State > listState,  
    int truncation)
```

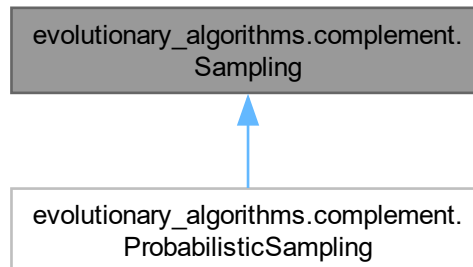
Reimplemented from [evolutionary\\_algorithms.complement.FatherSelection](#).

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

- `C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary_algorithms/complement/RouletteSelection.java`

### 5.113 evolutionary\_algorithms.complement.Sampling Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.Sampling:



#### Public Member Functions

- abstract List< [State](#) > **sampling** (List< [State](#) > fathers, int countInd)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Sampling.java

### 5.114 evolutionary\_algorithms.complement.SamplingType Enum Reference

#### Public Attributes

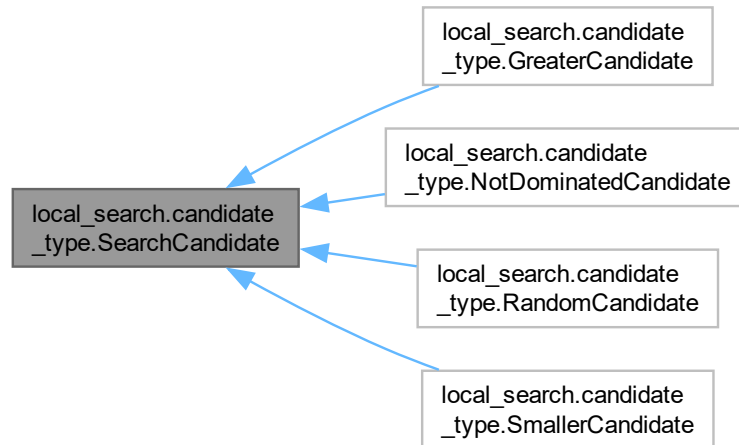
- **ProbabilisticSampling**

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/SamplingType.java

## 5.115 local\_search.candidate\_type.SearchCandidate Interface Reference

Inheritance diagram for local\_search.candidate\_type.SearchCandidate:



### Public Member Functions

- **State candidate** ([State](#) stateReference, List< [State](#) > neighborhood)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/SearchCandidate.java

## 5.116 evolutionary\_algorithms.complement.SelectionType Enum Reference

### Public Attributes

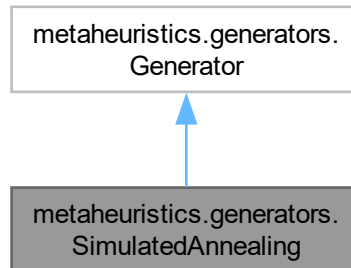
- **RouletteSelection**
- **TruncationSelection**

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

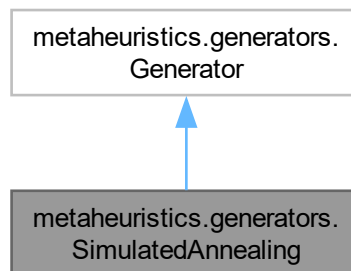
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/SelectionType.java

## 5.117 metaheuristics.generators.SimulatedAnnealing Class Reference

Inheritance diagram for metaheuristics.generators.SimulatedAnnealing:



Collaboration diagram for metaheuristics.generators.SimulatedAnnealing:



### Public Member Functions

- [GeneratorType](#) **getTypeGenerator** ()
- void **setTypeGenerator** ([GeneratorType](#) typeGenerator)
- [State](#) **generate** (Integer operatornumber) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [State](#) **getReference** ()
- void **setStateRef** ([State](#) stateRef)
- void **setInitialReference** ([State](#) stateInitialRef)
- void **updateReference** ([State](#) stateCandidate, Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException, ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException, NoSuchMethodException
- [GeneratorType](#) **getType** ()
- List< [State](#) > **getReferenceList** ()

- List< [State](#) > [getSonList](#) ()
- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()
- float[] [getTrace](#) ()

### Static Public Attributes

- static Double **alpha**
- static Double **tinitial**
- static Double **tfinal**
- static int **countIterationsT**
- static int **countGender** = 0
- static int **countBetterGender** = 0

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.117.1 Member Function Documentation

### 5.117.1.1 [awardUpdateREF\(\)](#)

```
boolean metaheuristics.generators.SimulatedAnnealing.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.117.1.2 [generate\(\)](#)

```
State metaheuristics.generators.SimulatedAnnealing.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class↔
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.117.1.3 [getListCountBetterGender\(\)](#)

```
int[] metaheuristics.generators.SimulatedAnnealing.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.4 getListCountGender()

```
int[] metaheuristics.generators.SimulatedAnnealing.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.5 getReference()

```
State metaheuristics.generators.SimulatedAnnealing.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.6 getReferenceList()

```
List< State > metaheuristics.generators.SimulatedAnnealing.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.7 getSonList()

```
List< State > metaheuristics.generators.SimulatedAnnealing.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.8 getTrace()

```
float[] metaheuristics.generators.SimulatedAnnealing.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.9 getType()

```
GeneratorType metaheuristics.generators.SimulatedAnnealing.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.10 getWeight()

```
float metaheuristics.generators.SimulatedAnnealing.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.11 setInitialReference()

```
void metaheuristics.generators.SimulatedAnnealing.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.12 setWeight()

```
void metaheuristics.generators.SimulatedAnnealing.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.117.1.13 updateReference()

```
void metaheuristics.generators.SimulatedAnnealing.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTarget↵
Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/SimulatedAnnealing.java

## 5.118 metaheuristics.generators.SimulatedAnnealingTest Class Reference

### Public Member Functions

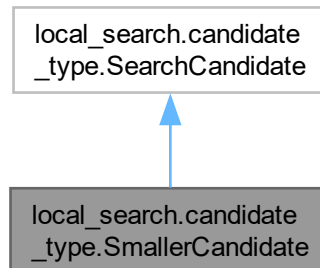
- void **setUp** ()
- void **testInitialization** ()
- void **testGenerate** () throws Exception
- void **testUpdateReference\_Accept** () throws Exception
- void **testGetReferenceList** ()
- void **testUpdateReference\_CoolingSchedule** () throws Exception

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

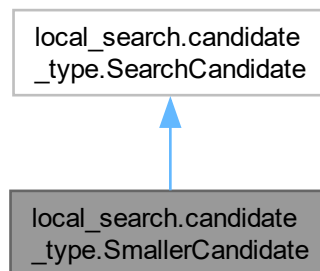
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/SimulatedAnnealingTest.java

## 5.119 local\_search.candidate\_type.SmallerCandidate Class Reference

Inheritance diagram for local\_search.candidate\_type.SmallerCandidate:



Collaboration diagram for local\_search.candidate\_type.SmallerCandidate:



### Public Member Functions

- [State candidate](#) ([State](#) stateReference, List< [State](#) > neighborhood)

### 5.119.1 Member Function Documentation

#### 5.119.1.1 candidate()

```

State local_search.candidate_type.SmallerCandidate.candidate (
    State stateReference,
    List< State > neighborhood)
  
```

Implements [local\\_search.candidate\\_type.SearchCandidate](#).

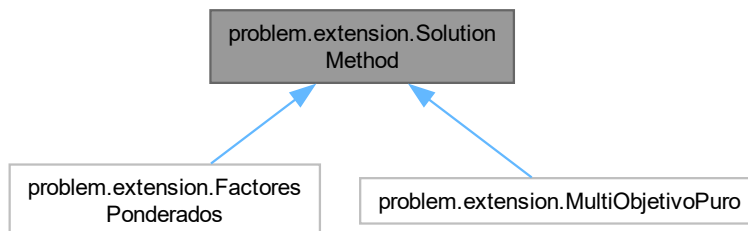
The documentation for this class was generated from the following file:

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/candidate\_type/SmallerCandidate.java



## 5.120 problem.extension.SolutionMethod Class Reference

Inheritance diagram for problem.extension.SolutionMethod:



### Public Member Functions

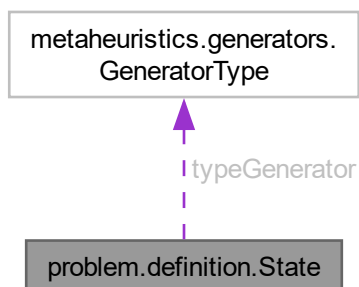
- abstract void **evaluationState** ([State](#) state)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/extension/SolutionMethod.java

## 5.121 problem.definition.State Class Reference

Collaboration diagram for problem.definition.State:



### Public Member Functions

- **State** (State ps)
- **State** (ArrayList< Object > code)
- ArrayList< Object > **getCode** ()
- void **setCode** (ArrayList< Object > listCode)
- [GeneratorType](#) **getTypeGenerator** ()
- void **setTypeGenerator** ([GeneratorType](#) typeGenerator)
- ArrayList< Double > **getEvaluation** ()
- void **setEvaluation** (ArrayList< Double > evaluation)
- int **getNumber** ()
- void **setNumber** (int number)
- State **clone** ()
- Object **getCopy** ()
- boolean **Comparator** (State state)
- double **Distance** (State state)

### Protected Attributes

- [GeneratorType](#) **typeGenerator**
- ArrayList< Double > **evaluation**
- int **number**
- ArrayList< Object > **code**

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/definition/State.java

## 5.122 problem.definition.StateTest Class Reference

### Public Member Functions

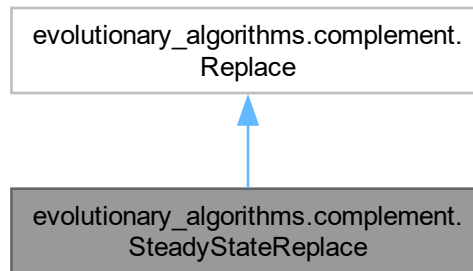
- void **testStateInitialization** ()
- void **testSettersAndGetters** ()
- void **testDistance** ()
- void **testComparator** ()
- void **testCloneAndCopy** ()

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

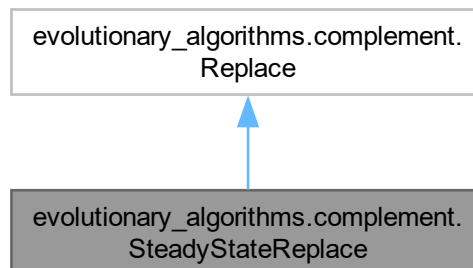
- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/problem/definition/StateTest.java

## 5.123 evolutionary\_algorithms.complement.SteadyStateReplace Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.SteadyStateReplace:



Collaboration diagram for evolutionary\_algorithms.complement.SteadyStateReplace:



### Public Member Functions

- `List< State > replace (State stateCandidate, List< State > listState)`
- `State MinValue (List< State > listState)`
- `State MaxValue (List< State > listState)`

### 5.123.1 Member Function Documentation

#### 5.123.1.1 replace()

```
List< State > evolutionary_algorithms.complement.SteadyStateReplace.replace (  
    State stateCandidate,  
    List< State > listState)
```

Reimplemented from [evolutionary\\_algorithms.complement.Replace](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/SteadyStateReplace.java

## 5.124 local\_search.complement.StopExecute Interface Reference

### Public Member Functions

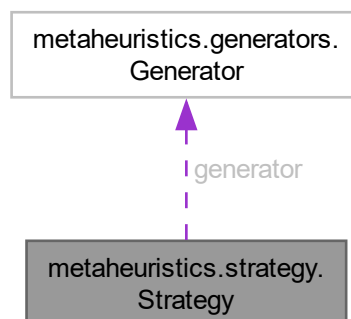
- boolean **stopIterations** (int current, int max)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/complement/StopExecute.java

## 5.125 metaheuristics.strategy.Strategy Class Reference

Collaboration diagram for metaheuristics.strategy.Strategy:



### Public Member Functions

- [Problem](#) **getProblem** ()
- void **setProblem** ([Problem](#) problem)
- int **getCountMax** ()
- void **setCountMax** (int countMax)
- int **getCountCurrent** ()
- void **setCountCurrent** (int countCurrent)
- List< String > **getListKey** ()
- void **setListKey** (List< String > listKey)
- [State](#) **getBestState** ()

**Static Public Member Functions**

- static Strategy **getStrategy** ()
- static void **reset** ()

**Public Attributes**

- List< [State](#) > **listRefPoblacFinal** = new ArrayList<>()
- List< [State](#) > **listBest** = new ArrayList<>()
- Map< [GeneratorType](#), [Generator](#) > **mapGenerators** = new HashMap<>()
- [Generator](#) **generator**
- List< [State](#) > **listStates**

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/strategy/Strategy.java

**5.126 metaheuristics.strategy.StrategyTest Class Reference****Public Member Functions**

- void **setUp** ()
- void **testSingleton** ()
- void **testGetSetProblem** ()
- void **testGetSetCountMax** ()
- void **testGetSetCountCurrent** ()
- void **testGetSetListKey** ()
- void **testListsInitialization** ()
- void **testGetBestState** ()
- void **testPublicFields** ()

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/strategy/StrategyTest.java

**5.127 local\_search.complement.StrategyType Enum Reference****Public Attributes**

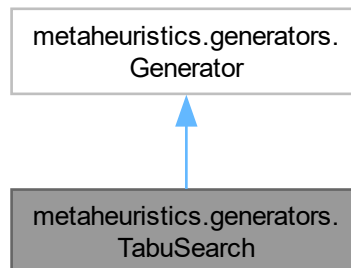
- **NORMAL**
- **TABU**

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

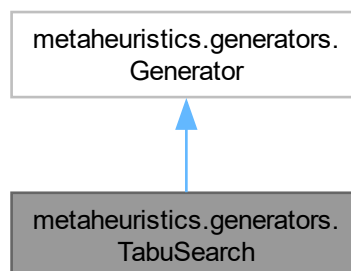
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/complement/StrategyType.java

## 5.128 metaheuristics.generators.TabuSearch Class Reference

Inheritance diagram for metaheuristics.generators.TabuSearch:



Collaboration diagram for metaheuristics.generators.TabuSearch:



### Public Member Functions

- `GeneratorType` **getTypeGenerator** ()
- void **setTypeGenerator** (`GeneratorType` typeGenerator)
- `State` **generate** (Integer operatornumber) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- `State` **getReference** ()
- void **setInitialReference** (`State` stateInitialRef)
- void **setStateRef** (`State` stateRef)
- void **updateReference** (`State` stateCandidate, Integer countIterationsCurrent) throws `IllegalArgumentException`, `SecurityException`, `ClassNotFoundException`, `InstantiationException`, `IllegalAccessException`, `InvocationTargetException`, `NoSuchMethodException`
- `GeneratorType` **getType** ()
- List< `State` > **getReferenceList** ()

- List< [State](#) > [getSonList](#) ()
- void **setTypeCandidate** ([CandidateType](#) typeCandidate)
- boolean [awardUpdateREF](#) ([State](#) stateCandidate)
- float [getWeight](#) ()
- void [setWeight](#) (float weight)
- int[] [getListCountBetterGender](#) ()
- int[] [getListCountGender](#) ()
- float[] [getTrace](#) ()

### Static Public Attributes

- static int **countGender** = 0
- static int **countBetterGender** = 0

### Additional Inherited Members

### Public Attributes inherited from [metaheuristics.generators.Generator](#)

- int **countGender**
- int **countBetterGender**
- int[] **listCountBetterGender**

## 5.128.1 Member Function Documentation

### 5.128.1.1 [awardUpdateREF\(\)](#)

```
boolean metaheuristics.generators.TabuSearch.awardUpdateREF (
    State stateCandidate)
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.128.1.2 [generate\(\)](#)

```
State metaheuristics.generators.TabuSearch.generate (
    Integer operatornumber) throws IllegalArgumentException, SecurityException, Class←
NotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

### 5.128.1.3 [getListCountBetterGender\(\)](#)

```
int[] metaheuristics.generators.TabuSearch.getListCountBetterGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.4 getListCountGender()

```
int[] metaheuristics.generators.TabuSearch.getListCountGender ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.5 getReference()

```
State metaheuristics.generators.TabuSearch.getReference ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.6 getReferenceList()

```
List< State > metaheuristics.generators.TabuSearch.getReferenceList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.7 getSonList()

```
List< State > metaheuristics.generators.TabuSearch.getSonList ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.8 getTrace()

```
float[] metaheuristics.generators.TabuSearch.getTrace ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.9 getType()

```
GeneratorType metaheuristics.generators.TabuSearch.getType ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.10 getWeight()

```
float metaheuristics.generators.TabuSearch.getWeight ()
```

Reimplemented from [metaheuristics.generators.Generator](#).

#### 5.128.1.11 setInitialReference()

```
void metaheuristics.generators.TabuSearch.setInitialReference (  
    State stateInitialRef)
```

Reimplemented from [metaheuristics.generators.Generator](#).



**5.128.1.12 setWeight()**

```
void metaheuristics.generators.TabuSearch.setWeight (
    float weight)
```

Reimplemented from [metaheuristics.generators.Generator](#).

**5.128.1.13 updateReference()**

```
void metaheuristics.generators.TabuSearch.updateReference (
    State stateCandidate,
    Integer countIterationsCurrent) throws IllegalArgumentException, SecurityException,
    ClassNotFoundException, InstantiationException, IllegalAccessException, InvocationTargetException,
    Exception, NoSuchMethodException
```

Reimplemented from [metaheuristics.generators.Generator](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/metaheuristics/generators/TabuSearch.java

**5.129 metaheuristics.generators.TabuSearchTest Class Reference****Public Member Functions**

- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void **testSetAndGetReference** ()
- void **testGetType** ()
- void **testUpdateReference** () throws Exception
- void **testUpdateReference\_TabuLogic\_Add** () throws Exception
- void **testUpdateReference\_TabuLogic\_Full** () throws Exception
- void **testGetReferenceList** ()
- void **testSetStateRef** ()
- void **testSetGeneratorType** ()
- void **testSetTypeCandidate** ()
- void **testGettersAndSetters** ()
- void **testUpdateReference\_TabuLogic\_Duplicate** () throws Exception
- void **testUpdateReference\_StrategyNotTabu** () throws Exception
- void **testUpdateReference\_NotAccepted** () throws Exception
- void **testUpdateReference\_TabuLogic\_Full\_Duplicate** () throws Exception

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/test/java/metaheuristics/generators/TabuSearchTest.java

## 5.130 local\_search.complement.TabuSolutions Class Reference

### Public Member Functions

- List< [State](#) > **filterNeighbor** (List< [State](#) > listNeighborhood) throws Exception

### Static Public Attributes

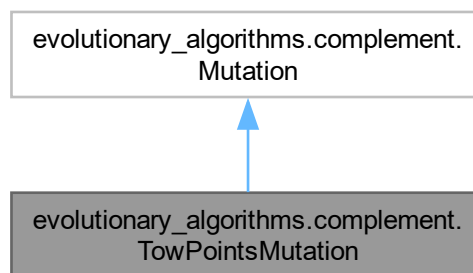
- static List< [State](#) > **listTabu** = new ArrayList<>()
- static int **maxelements** = 10

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

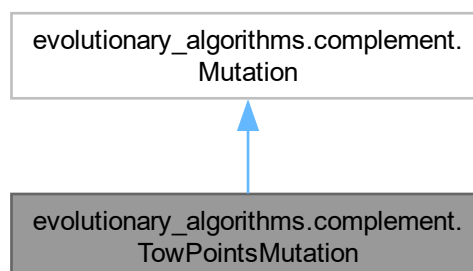
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/complement/TabuSolutions.java

## 5.131 evolutionary\_algorithms.complement.TowPointsMutation Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.TowPointsMutation:



Collaboration diagram for evolutionary\_algorithms.complement.TowPointsMutation:



## Public Member Functions

- [State mutation](#) ([State](#) newind, double PM)

### 5.131.1 Member Function Documentation

#### 5.131.1.1 mutation()

```
State evolutionary_algorithms.complement.TowPointsMutation.mutation (  
    State newind,  
    double PM)
```

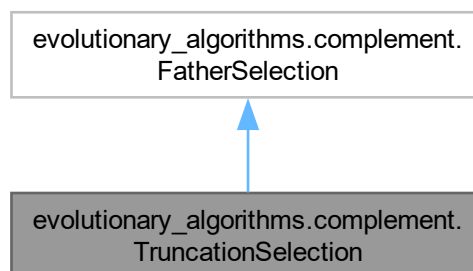
Reimplemented from [evolutionary\\_algorithms.complement.Mutation](#).

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

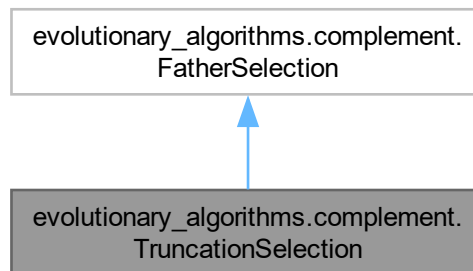
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/TowPointsMutation.java

## 5.132 evolutionary\_algorithms.complement.TruncationSelection Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.TruncationSelection:



Collaboration diagram for evolutionary\_algorithms.complement.TruncationSelection:



### Public Member Functions

- List< [State](#) > **OrderBetter** (List< [State](#) > listState)
- List< [State](#) > **ascOrderBetter** (List< [State](#) > listState)
- List< [State](#) > **selection** (List< [State](#) > listState, int truncation)

## 5.132.1 Member Function Documentation

### 5.132.1.1 selection()

```
List< State > evolutionary_algorithms.complement.TruncationSelection.selection (
    List< State > listState,
    int truncation)
```

Reimplemented from [evolutionary\\_algorithms.complement.FatherSelection](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/TruncationSelection.java

## 5.133 config.tspDynamic.TSPState Class Reference

### Public Member Functions

- int **getValue** ()
- void **setValue** (int value)
- int **getIdCity** ()
- void **setIdCity** (int idCity)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/resources/config/tspDynamic/TSPState.java

## 5.134 problem.extension.TypeSolutionMethod Enum Reference

### Public Attributes

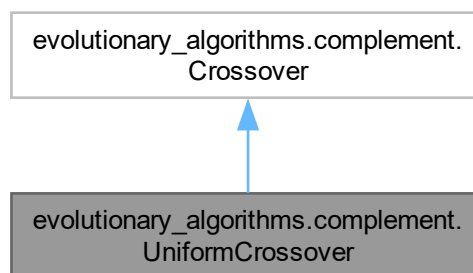
- **FactoresPonderados**
- **MultiObjetivoPuro**

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

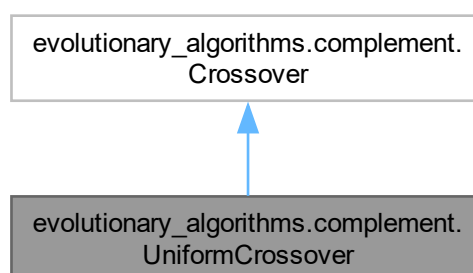
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/problem/extension/TypeSolutionMethod.java

## 5.135 evolutionary\_algorithms.complement.UniformCrossover Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.UniformCrossover:



Collaboration diagram for evolutionary\_algorithms.complement.UniformCrossover:



## Public Member Functions

- `int[] mascara` (int length)
- `State crossover` (`State` father1, `State` father2, double PC)

### 5.135.1 Member Function Documentation

#### 5.135.1.1 crossover()

```
State evolutionary_algorithms.complement.UniformCrossover.crossover (  
    State father1,  
    State father2,  
    double PC)
```

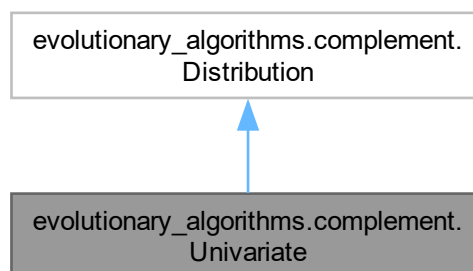
Reimplemented from [evolutionary\\_algorithms.complement.Crossover](#).

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

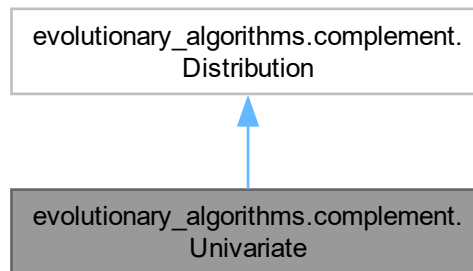
- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/UniformCrossover.java

## 5.136 evolutionary\_algorithms.complement.Univariate Class Reference

Inheritance diagram for evolutionary\_algorithms.complement.Univariate:



Collaboration diagram for evolutionary\_algorithms.complement.Univariate:



### Public Member Functions

- List< [Probability](#) > [distribution](#) (List< [State](#) > fathers)
- List< String > [getListKey](#) (SortedMap< String, Object > map)

## 5.136.1 Member Function Documentation

### 5.136.1.1 distribution()

```
List< Probability > evolutionary_algorithms.complement.Univariate.distribution (  
    List< State > fathers)
```

Reimplemented from [evolutionary\\_algorithms.complement.Distribution](#).

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/evolutionary\_algorithms/complement/Univariate.java

## 5.137 local\_search.complement.UpdateParameter Class Reference

### Static Public Member Functions

- static Integer [updateParameter](#) (Integer parameter)

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

- C:/IntelliJPro/uni/LB/BiCIAM/src/main/java/local\_search/complement/UpdateParameter.java





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