# Diseño de casos de prueba

## Package Data Structure

### NodeTest

**Setups**

|  |  |
| --- | --- |
| Setup1 | Object of class Node with fields:  Icono  Descripción generada automáticamentevalue: String= “Uno”  key: int= 1  head: null  left: null  right: null |
| Setup2 | Diagrama  Descripción generada automáticamente |
| Setup3 | Forma, Círculo  Descripción generada automáticamente |

**Test cases design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Setup** | **Method** | **Input** | **Output** |
| Setup1 | testGetters |  | Value= “Uno”  Key=1 |
| Setup2 | testGettersAndSetters |  | Value = “Dos”, key=2  Head = “Cuatro”, key=4  Left = “Uno”, key=1  Right = “Tres”, key=3 |
| Setup1 | testGetMin1 |  | Node:  Value = “Uno”  Key=1 |
| Setup2 | testGetMin2 |  | Node:  Value = “Uno”  Key=1 |
| Setup3 | testGetMin3 |  | Node:  Value = “Tres”  Key=3 |

### BSTTest (Binary Search Tree)

**Setups**

|  |  |
| --- | --- |
| Setup1 | Object of class BST<int, String> with fields:  Root = null |
| Setup2 | Object of class BST<int, String> with fields:  Root:  Object of class Node with fields:  Icono  Descripción generada automáticamentevalue: String= “Uno”  key: int= 1  head: null  left: null  right: null |
| Setup3 | Object of class BST<int, String> with fields:  Diagrama  Descripción generada automáticamente |
| Setup4 | Object of class BST<int, String> with fields:  Forma, Círculo  Descripción generada automáticamente |

**Test cases design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Setup** | **Method** | **Input** | **Output** |
| Setup1 | testInsert1 | Object of class Node:  Value= “Once”  Key=11 | Size=1  Height=0  Root:  Value = “Once”  Key =11 |
| Setup2 | testInsert2 | Object of class Node:  Value= “Siete”  Key=7 | Size=2  Height=1  The element right of root is:  Value = “Siete”  Key =7 |
| Setup3 | testInsert3 | Object of class Node:  Value= “Cinco”  Key=5 | Size=4  Height=2  The element that follows the rout Left-Right after the root is:  Value = “Cinco”  Key =5 |
| Setup4 | testInsert4 | Object of class Node:  Value= “Siete”  Key=7 | Size=7  Height=3  The element that follows the rout Left-right-left after the root is:  Value = “Siete”  Key =7 |
| **Setup** | **Method** | **Input** | **Output** |
| Setup2 | testRemove1 | Key=1 | Size=0  Height=0  Root:  Null  Return true |
| Setup3 | testRemove2 | Key=4 | Size=2  Height=1  The element left of root is:  Null  Return true |
| Setup3 | testRemove3 | Key=10 | Size=2  Height=1  Root:  Value= “Catorce”  Key=14  Return true |
| Setup4 | testRemove4 | Key=5 | Size=5  Height=2  The element that follows the rout Left-Left after the root is:  Value = “Tres”  Key =3  Return true |
| Setup4 | testRemove5 | Key=6 | Size=5  Height=3  The element left of the root is:  Value = “Ocho”  Key =8  The element that follows the rout left-right after the root is null.  Return true |

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| --- | --- | --- | --- |
| **Setup** | **Method** | **Input** | **Output** |
| Setup1 | testSearch1 | Key=11 | Object String:  null |
| Setup2 | testSearch2 | Key=1 | Object String:  “Uno” |
| Setup2 | testSearch3 | Key=4 | Object String:  null |
| Setup3 | testISearch4 | Key=14 | Object String:  “Catorce” |
| Setup4 | testSearch5 | Key=3 | Object String:  “Tres” |

### AVLTest (Prueba del árbol balanceable)

**Setups**

|  |  |
| --- | --- |
| Setup1 | Object of class BST< Integer, String> with fields:  Root = null |
| Setup2 | Object of class BST< Integer, String> with fields:  Root:  Object of class Node with fields:  Icono  Descripción generada automáticamentevalue: String= “uno”  key: int= 1  head: null  left: null  right: null |
| Setup3 | Object of class BST< Integer, String> with fields:  Diagrama  Descripción generada automáticamente |
| Setup4 | Object of class BST<Integer, String> with fields:  Forma, Círculo  Descripción generada automáticamente |
| Setup5 |  |
| SetupA1 | Object of class BST<int, String> with fields:  Diagrama  Descripción generada automáticamente |
| SetupA2 | Forma, Círculo  Descripción generada automáticamenteForma, Círculo  Descripción generada automáticamente |
| SetupB | Object of class BST<int, String> with fields:  Círculo  Descripción generada automáticamente |
| SetupC | Object of class BST<int, String> with fields:  Diagrama  Descripción generada automáticamente |
| SetupD1 | Object of class BST<int, String> with fields:  Diagrama  Descripción generada automáticamente |
| SetupD2 | Object of class BST<int, String> with fields:  Forma, Círculo  Descripción generada automáticamente |
| SetupE | Object of class BST<int, String> with fields:  Círculo  Descripción generada automáticamente |
| SetupF | Object of class BST<int, String> with fields:  Diagrama  Descripción generada automáticamente |

**Test cases design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Setup** | **Method** | **Input** | **Output** |
| SetupA1 | testLeftRotateCaseA1 | Root | An Object of type ABL<int, String> whose\_shape is:Imagen que contiene Icono  Descripción generada automáticamente |
| SetupA2 | testLeftRotateCaseA2 | Root | An Object of type ABL<int, String> whose\_shape is:  Forma, Círculo  Descripción generada automáticamente |
| SetupB | testLeftRotateCaseB | Root | An Object of type ABL<int, String> whose\_shape is:  Icono  Descripción generada automáticamente |
| SetupC | testLeftRotateCaseC | Root | An Object of type ABL<int, String> whose\_shape is:  Imagen que contiene Diagrama  Descripción generada automáticamente |
| SetupD1 | testRightRotateCaseD1 | Root | An Object of type ABL<int, String> whose\_shape is:  Imagen que contiene Icono  Descripción generada automáticamente |
| SetupD2 | testRightRotateCaseD2 | Root | An Object of type ABL<int, String> whose\_shape is:  Imagen que contiene Icono  Descripción generada automáticamente |
| SetupE | testRightRotateCaseE | Root | An Object of type ABL<int, String> whose\_shape is:  Imagen que contiene Diagrama  Descripción generada automáticamente |
| SetupF | testRightRotateCaseF | Root | An Object of type ABL<int, String> whose\_shape is:  Icono  Descripción generada automáticamente |
| Setup4 | testInsertAndRefreshFactors | Node<Integer, String> father of the element to add: (3, “Tress”) | Element () |
| Setup4 | testRemoveAndRefreshFactors | Node<Integer, String> father of the element to add: (3, “Tress”) |  |