**TESTING DOCUMENTATION**

**HASH TABLE**

**Scenaries Set Up:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Class** | **Scenary** |
| HashTableTesting | HashTable | null |
| setUp1 | HashTable | HashTable with 3 elements |
| setUp2 | HashTable | HashTable with 4 elements (two with the same key) |

**Test Cases Design:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Objective:** | | | | |
| **Class** | **Method** | **Scenary** | **Entry Values** | **Result** |
| HashTable | hashFunction() | setUp1 | 5 | Integer.class |
| HashTable | add() | HashTableTesting | 1,2 | False |
| HashTable | add() | setUp1 | 10,10  0,0 | 5 |
| HashTable | getValue() | setUp1 | 1 | 1 |
| HashTable | hashFunction() | setUp1 | 4 | null |
| HashTable | getValue() | setUp1 | 1,2  1 | 1 |
| HashTable | getFirst() | setUp1 | 1 | 1 |
| HashTable | getFirst() | setUp1 | 5 | null |
| HashTable | getFirst() | setUp1 | 1 | 1 |
| HashTable | findValue() | setUp2 | 40 | 2 |
| HashTable | findValue() | setUp2 | 500 | null |
| HashTable | find() | setUp2 | 240 | 1 |
| HashTable | find() | setUp2 | 500 | null |
| HashTable | delete() | setUp1 | 1,1 | null |
| HashTable | delete() | setUp1 | 0,0 | 3 |
| HashTable | isEmpty() | HashTableTesting | N/A | true |
| HashTable | isEmpty | setUp1 | N/A | false |

**QUEUE**

**Scenaries Set Up:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Class** | **Scenary** |
| QueueTesting | Queue | null |
| setUp1 | Queue | Queue with 1 element |
| setUp2 | Queue | Queue with 4 elements |

**Test Cases Design:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Objective:** | | | | |
| **Class** | **Method** | **Scenary** | **Entry Values** | **Result** |
| Queue | add() | QueueTesting | 1 | false |
| Queue | getTop() | setUp2 | N/A | 1 |
| Queue | add() | setUp1 | 2 | 2 |
| Queue | GetSize() | setUp2 | N/A | 4 |
| Queue | getSize() | setUp2 | N/A | 3 |
| Queue | Poll() | setUp2 | N/A | 1 |
| Queue | Poll() | QueueTesting | N/A | null |
| Queue | Peek() | setUp1 | N/A | 1 |
| Queue | isEmpty | QueueTesting | N/A | true |
| Queue | Poll()  getTop() | setUp2 | N/A | 2 |
| Queue | Poll()  Peek() | setUp2 | N/A | 2 |
| Queue | showQueue() | QueueTesting | N/A | “Queue is empty” |
| Queue | showQueue() | setUp1 | N/A | “1” |

**STACK**

**Scenaries Set Up:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Class** | **Scenary** |
| StackTesting | Stack | null |
| setUp1 | Stack | Stack with 1 element |
| setUp2 | Stack | Stack with 4 elements |

**Test Cases Design:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Objective:** | | | | |
| **Class** | **Method** | **Scenary** | **Entry Values** | **Result** |
| Stack | Push() | StackTesting | 1 | False |
| Stack | getTop() | SetUp2 | N/A | 4 |
| Stack | Pop() | setUp2 | N/A | 4 |
| Stack | Pop() | setUp1 | N/A | 1 |
| Stack | Pop() | StackTesting | N/A | Null |
| Stack | Peek() | setUp2 | N/A | 4 |
| Stack | Peek() | StackTesting | N/A | Null |
| Stack | Peek() | setUp1 | N/A | 1 |
| Stack | isEmpty() | StackTesting | N/A | true |
| Stack | IsEmpty() | setUp1 | N/A | False |
| Stack | getSize() | setUp1 | N/A | 1 |
| Stack | GetSize() | setUp2 | N/A | 4 |
| Stack | getSize() | StackTesting | N/A | 0 |

**MAX HEAP**

**Scenaries Set Up:**

|  |  |  |
| --- | --- | --- |
| **Name** | **Class** | **Scenary** |
| MaxHeapTest | MaxHeap | null |
| setUp | MaxHeap | MaxHeap with 1 element |
| setUp1 | MaxHeap | MaxHeap with 5 elements |

**Test Cases Design:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Objective:** | | | | |
| **Class** | **Method** | **Scenary** | **Entry Values** | **Result** |
| MaxHeap | IsEmpty() | MaxHeapTest | N/A | True |
| MaxHeap | IsEmpty() | setUp | N/A | False |
| MaxHeap | Insert() | MaxHeapTest | 2 | False |
| MaxHeap | addElements() | MaxHeapTest | 1,2,3 | False |
| MaxHeap | peekMax() | setUp | N/A | 1 |
| MaxHeap | peekMax() | setUp1 | N/A | 5 |
| MaxHeap | peekMax() | MaxHeapTest | N/A | null |
| MaxHeap | extractMax() | MaxHeapTest | N/A | Null |
| MaxHeap | extractMaxt() | setUp | N/A | 1 |
| MaxHeap | extractMax() | setUp1 | N/A | 5 |
| MaxHeap | getHeap() | MaxHeapTest | N/A | 0 |
| MaxHeap | getHeap() | MaxHeapTest | N/A | 5 |