**Test Estructuras**

**Tablas hash**

| **Nombre** | **Clase** | **Escenario** |
| --- | --- | --- |
| setupStage1 | HashTableTest | Hash table is empty |
| setupStage2 | HashTableTest | Hash table contains 3 objects   * Object 1: key = 123, value = “Hola” * Object 2: key = 456, value = “Bye” * Object 3: key =789, value = “Hi ” |

| **Test Objective:** To verify the functionality of the 'add' method. | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| hashTable | add | setupStage1 | Key = 123, value = “Hola” | When a new element is added to the table, its size increases to 1. |
| hashTable | add | setupStage2 | Key = 123, value = “Hola” | The object is not added, and an exception is thrown, indicating that the object is already in the table. |
| hashTable | add | setupStage2 | Key = 000, value = “c” | A new element is added to the table, and its size increases to 4. |

| **Test Objective:** To verify the functionality of the 'search' method. | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| hashTable | search | setupStage1 | Key = 123 | An exception is thrown, indicating that the table is empty. |
| hashTable | search | setupStage2 | Key = 123 | It should indicate that the element was found, and the element is returned. |
| hashTable | search | setupStage2 | Key = 111 | It should indicate that the item was not found. |

| **Test Objective:** To verify the functionality of the 'delete' method. | | | | |
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| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| hashTable | delete | setupStage1 | Key = 123 | An exception is thrown, indicating that the table is empty. |
| hashTable | delete | setupStage2 | Key = 123 | It should indicate that the element was successfully removed, and the table size decreases to 3. |
| hashTable | search | setupStage3 | Key = 111 | It should indicate that the element is not found in the table. |
| **Test Objective:** To verify the functionality of the 'modify' method. | | | | |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| hashTable | mod | setupStage1 | Key = 123, newValue = “”Bye” | An exception is thrown, indicating that the table is empty. |
| hashTable | mod | setupStage2 | Key = 123, newValue = “”Bye” | It should indicate that the element was modified successfully. |
| hashTable | search | setupStage3 | Key = 111, newValue = “Hola” | It should indicate that the element is not found in the table. |

**Queue**

| **Nombre** | **Clase** | **Escenario** |
| --- | --- | --- |
| setupStage1 | QueueTest | Queue is empty |
| setupStage2 | QueueTest | The queue contains 3 elements.   * Object 1: key = 123, value = “Hola” * Object 2: key = 456, value = “Bye” * Object 3: key =789, value = “Hi ” |

| **Test Objective:** To verify the functionality of the 'add' method. | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Queue | add | setupStage1 | Key = 123, value = “Hola” | A new element is added to the queue, and its size increases to 1. |
| Queue | add | setupStage2 | Key = 123, value = “Hola” | The object is not added, and an exception is thrown, indicating that the object is already in the queue. |
| Queue | add | setupStage3 | Key = 000, value = “c” | A new element is added to the queue, and its size increases to 4, and the element is added to the end of the queue. |

| **"Test Objective:** To verify the functionality of the 'search' method. | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Queue | search | setupStage1 | Key = 123 | An exception is thrown, indicating that the queue is empty. |
| Queue | search | setupStage2 | Key = 123 | It should indicate that the element was found, and the element is returned. |
| Queue | search | setupStage3 | Key = 111 | It should indicate that the element was not found. |

| **Objetivo de la Prueba:** verificar el funcionamiento del método eliminar o poll | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Queue | delete | setupStage1 | Key = 123 | Se arroja una excepción que indica que la cola esta vacía. |
| Queue | delete | setupStage2 | Key = 123 | Se debe indicar que el elemento fue eliminado correctamente, el tamaño de la cola disminuye a 3 y el siguiente elemento pasa a ser primero |
| Queue | search | setupStage3 | Key = 111 | Se debe indicar que el elemento no se encuentra en la cola |

**Stack**

| **Nombre** | **Clase** | **Escenario** |
| --- | --- | --- |
| setupStage1 | StackTest | La pila está vacía |
| setupStage2 | StackTest | La pila contiene 3 objetos en el siguiente orden   * Object 1: key = 123, value = “Hola” * Object 2: key = 456, value = “Bye” * Object 3: key =789, value = “Hi ” |

| **Objetivo de la Prueba:** verificar el funcionamiento del método agregar | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Stack | add | setupStage1 | Key = 123, value = “Hola” | se agrega un nuevo elemento a la cola, el tamaño de la misma aumenta a 1 |
| Stack | add | setupStage2 | Key = 123, value = “Hola” | No se agrega el objeto y se lanza una excepción que indica que el objeto ya esta en la cola |
| Stack | add | setupStage3 | Key = 000, value = “c” | Se agrega un nuevo elemento a la cola, el tamaño de la misma aumenta a 4 y el elemento se agrega al final de la cola. |

| **Objetivo de la Prueba:** verificar el funcionamiento del método buscar | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Stack | search | setupStage1 | Key = 123 | Se arroja una excepción que indica que la cola esta vacía. |
| Stack | search | setupStage2 | Key = 123 | Se debe indicar que el elemento fue encontrado y se retorna el elemento |
| Stack | search | setupStage3 | Key = 111 | Se debe indicar que el elemento no fue encontrado |

| **Objetivo de la Prueba:** verificar el funcionamiento del método eliminar o poll | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Stack | delete | setupStage1 | Key = 123 | Se arroja una excepción que indica que la cola esta vacía. |
| Stack | delete | setupStage2 | Key = 123 | Se debe indicar que el elemento fue eliminado correctamente, el tamaño de la cola disminuye a 3 y el siguiente elemento pasa a ser primero |
| Stack | search | setupStage3 | Key = 111 | Se debe indicar que el elemento no se encuentra en la cola |

**PriorityQueue**

| **Nombre** | **Clase** | **Escenario** |
| --- | --- | --- |
| setupStage1 | QueueTest | La cola de prioridad esta vacia |
| setupStage2 | QueueTest | La cola contiene 3 objetos   * Object 1: “Hola”,1 * Object 2: “Bye”,2 * Object 3: “Hi”,3 |

| **Objetivo de la Prueba:** verificar el funcionamiento del método agregar | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Queue | add | setupStage1 | Object 1 = “Hola”, 1 | se agrega un nuevo elemento a la cola de prioridad, el tamaño de la misma aumenta a 1 y se ubica al inicio de la cola de prioridad |
| Queue | add | setupStage2 | Object 1 = “Hola”,1 | No se agrega el objeto y se lanza una excepción que indica que el objeto ya esta en la cola de prioridad |
| Queue | add | setupStage2 | Object 4 = “Mañana”, 4 | Se agrega un nuevo elemento a la cola de prioridad, el tamaño de la misma aumenta a 4 y el elemento se agrega al inicio de la cola de prioridad. |

| **Objetivo de la Prueba:** verificar el funcionamiento del método buscar | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Queue | search | setupStage1 | Key = 123 | Se arroja una excepción que indica que la cola esta vacía. |
| Queue | search | setupStage2 | Key = 123 | Se debe indicar que el elemento fue encontrado y se retorna el elemento |
| Queue | search | setupStage2 | Key = 111 | Se debe indicar que el elemento no fue encontrado |

| **Objetivo de la Prueba:** verificar el funcionamiento del método eliminar o poll | | | | |
| --- | --- | --- | --- | --- |
| **Clase** | **Método** | **Escenario** | **Valores de Entrada** | **Resultado** |
| Queue | delete | setupStage1 | Key = 123 | Se arroja una excepción que indica que la cola esta vacía. |
| Queue | delete | setupStage2 | Key = 123 | Se debe indicar que el elemento fue eliminado correctamente, el tamaño de la cola disminuye a 3 y el siguiente elemento pasa a ser primero |
| Queue | search | setupStage2 | Key = 111 | Se debe indicar que el elemento no se encuentra en la cola |