Test Scenarios for *replace with the name of the unit being tested*

| method being tested | Rule / requirement being tested | Setup work required | Test value supplied to method being tested | Expected result of executing method |
| --- | --- | --- | --- | --- |
| StudentCollection(int capacity) | Does the constructor initialize | Create an empty collection; create a student object  Capacity = -1 | Capacity | Throw an StudentCollectionException |
|  | ^ | Capacity = 0 |  | Throw StudentCollectionException |
|  | ^ | Capacity = 5 |  | Result != null; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
|  | ^ | Capacity= 1 |  | Result != null; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
|  | ^ | Capacity= 2 |  | Result != null; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
| StudentCollection() | Does the constructor initialize | none | none | Result != null; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
| getCapacity() | Indication of the capacity | create collection | none | Result==Default value |
|  | ^ | create collection; Create capacity of 5; Add student | none | result.getStudentCount= 0;==1 |
| reset() | Resets the student collection | Create an empty collection; create a student object | none | result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= 0; |
|  |  | Create a collection |  | result.isEmpty=true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= 0; |
| isFull() | Indication of if collection is full | create collection; insert 1 student object | none | Result ==false; result.isEmpty= false; result.isFull=false; result.getStudentCount= 1;  Result.getcapacity= 1; |
|  | ^ | create collection; insert a student object; set student capacity to 5; create 5 students | none | Result ==true; result.isEmpty= false; result.isFull=true; result.getStudentCount= 1;  Result.getcapacity= 5; |
|  |  | create collection; insert a student object; set student capacity to 5; create 6 students | none | Throws a exception |
|  | ^ | Create a collection | none | Result ==false; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
| isEmpty() | Indication of if collection is empty | create collection; insert a student object | none | Result ==false; result.isEmpty= false; result.isFull=false; result.getStudentCount= 1;  Result.getcapacity= 1; |
|  | ^ | create collection | none | Result=true; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
| getStudentCount() | Indication of the amount of students in the object | create collection; add 5 student objects | none | Result ==5 ; result.isFull=false;  Result.getcapacity= 5; |
| getSpacesRemaining() | Indication of the amount of spaces that are left | create collection of size 5; insert a student object |  | Result=4;  result.isEmpty= false; result.isFull=false; result.getStudentCount= 1;  Result.getcapacity= default-1; |
|  | ^ | Create a collection |  | Result=default; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
|  |  | create collection of size 5 ; insert 5 student object |  | Result=0; result.isEmpty= false; result.isFull=true; result.getStudentCount= 5;  Result.getcapacity= 5; |
| addStudent(StudentSpec aStudent) | Does it add a student | create collection; insert a student object. Add a student | Student created | Result= Student; result.isEmpty= false ; result.isFull=false; result.getStudentCount= 1;  Result.getcapacity= 1; |
|  |  | create collection; set capacity to 2. Add 3 students | 2 students created | Throw a exception |
|  |  | Create collection | null | Throw a exception |
| retrieveStudentBySID(String sidKey) | Does it Retrieve student by SID | create collection; insert a student object; create student | sidKey | Result=SID student; result.isEmpty= false; result.isFull=false; result.getStudentCount= 1;  Result.getcapacity=capacity-1; |
|  | ^ | create collection; | sidKey | Result=SID student ; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
| removeStudentBySID(String sidKey) | Does it Removal of the student by SID | create collection; insert a student object Add a student | student SID | Result=SID; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
|  | Removes nothing if no SID present | create collection; |  | Result=null; result.isEmpty= true; result.isFull=false; result.getStudentCount= 0;  Result.getcapacity= default; |
| createIterator() | Does the method create an iterator | create collection; insert a student object. Add 5 students | Four students | Result= Student Information; Store in a array; result.isEmpty= false; result.isFull=false; result.getStudentCount= 5;  Result.getcapacity= 5; |
|  | ^ | Create a collection | none | Exception thrown |