**Team Assignment - Lesson 4**

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**Step 1:**

**Task:** Calculate a random number.

**Input:** A minimum input and a maximum input.

**Output:** A random number in a range that includes the minimum and maximum inputs.

**Validation:** The random number must be between or include the min and max. If the user enters an invalid number, the computers will return a value of -1.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **generateRandomNum Test Matrix** | | | | | | | | |
|  | **Test Cases** | | | | | | | |
|  | **Valid Input** | | | **Invalid Input** | | | | **Boundaries** |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **Input** |  |  |  |  |  |  |  |  |
| minInput | **3** | 8 | 0 | -1 | 20 | 15 | 4 | 0 |
| maxInput | 16 | 8 | 7 | 12 | 6 | 5 | 21 | 20 |
| **Output** |  |  |  |  |  |  |  |  |
|  | 3..16 | 8 | 0..7 | -1 | -1 | -1 | -1 | 0..20 |
|  |  |  |  | minInput must | minInput must | maxInput must | maxInput must |  |
| **Validation** |  |  |  | be greater than or | be less than or | be less than | be less than |  |
|  |  |  |  | equal to zero | equal to 19 | minInput | 21 |  |

**Step 2: (Pseudo Code)**

generateRandomNum(minInput, maxInput): int

BEGIN

IF (minInput < 0 OR minInput > 19) THEN

RETURN -1

IF (maxInput < minInput OR maxInput > 20)

RETURN -1

RETURN = random (minInput, maxInput )

END

**Step 3:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **generateRandomNum Memory Test** | | | | | | | | |
|  | **Test Cases** | | | | | | | |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| **Variables** |  |  |  |  |  |  |  |  |
| minInput | **3** | 8 | 0 | -1 | 20 | 15 | 4 | 0 |
| maxInput | 16 | 8 | 7 | 12 | 6 | 5 | 21 | 20 |
| **randomNum** | 3..16 | 8 | 0..7 | -1 | -1 | -1 | -1 | 0..20 |