CSE215L: Summer 2021
Practice Problem: Set 1

1. Implement the following methods:
   a. `generateRandomArray(char lowerLimit, char upperLimit, int rows, int columns)`
   b. `generateRandomArray(int lowerLimit, int upperLimit, int rows, int columns)`
   c. `generateRandomArray(double lowerLimit, double upperLimit, int rows, int columns)`

As the name suggests, the purpose of the methods is to return random arrays. The data type of the returned array is determined by the datatype of the first two input parameters. For example, the first overloaded method returns a random array of characters, the second overloaded method returns a random array of integers and so on.

Assume that, for the first method, you will only receive lowercase alphabets as the values of the first two input parameters.

However, there is are two exceptions to this:
   a. If `lowerLimit` is greater than or equal to `upperLimit`
   b. If `rows` or `columns` or both are less than or equal to 0

In these cases, the array creation is deemed to be not possible. Hence, you should check for these cases and return null. If the array generation is impossible, also print out the cause.

In your main method, call each of the methods at least three times with different parameters, both valid and invalid. Print out the resulting array returned from the methods in each case, or null if the returned value is null.

Sample:
Your output from the main method should look like the following samples.
```
Calling generateRandomArray('b', 'k', 3, 3)
The output is:
| 'b'  'e'   'f' |
| 'g'  'd'   'c' |
| 'e'  'k'   'k' |

Calling generateRandomArray(24, 53, 4, 6)
The output is:
| 27 33 53 25 29 36 |
| 29 37 33 33 33 36 |
| 39 42 47 45 53 39 |
```

```
| 44 44 44 24 29 49 |


generateRandomArray('k', 'b', 3, 3)
Impossible to generate: lowerLimit > upperLimit
null

generateRandomArray(23, 54, -3, -3)
Impossible to generate: Negative rows and/or columns
null

generateRandomArray(73, 54, -3, -3)
Impossible to generate: lowerLimit > upperLimit
Impossible to generate: Negative rows and/or columns
null
```