1. Write a program called Factorial.java that computes factorials and catches the result in an array of type long for reuse. The long type of variable has its own range. For example 20! Is as high as the range of long type. So check the argument passes and "throw an exception", if it is too big or too small. If x is less than 0 throw an IllegalArgument Exception with a message "Value of x must be positive".If x is above the length of the array throw an IllegalArgumentException with a message "Result will overflow". Here x is the value for which we want to find the factorial.

2. Define an exception called "NoMatchFoundException" that is thrown when a string is not equal to "University". Write a program that uses this exception.

3. Write a program to create a class called MyStack that includes functions to perform all operations on a stack as well as raises an exception whenever overflow/underflow error occurs.

4. Write a class that keeps a running total of all characters passed to it (one at a time) and throws an exception if it is passed a non-alphabetic character.

5. Write a program that outputs the name of the capital of the country entered at the command line. The program should throw a "NoMatchFoundException" when it fails to print the capital of the country entered at the command line.

6. Write a program that takes a value at the command line for which factorial is to be computed. The program must convert the string to its integer equivalent. There are three possible user input errors that can prevent the program from executing normally.
   The first error is when the user provides no argument while executing the program and an ArrayIndexOutOfBoundsException is raised. You must write a catch block for this.
   The second error is NumberFormalException that is raised in case the user provides a non-integer (float double) value at the command line.The third error is IllegalArgument Exception. This needs to be thrown manually if the value at the command line is 0.