Week 18 Lab

Question 1

Create a class Exam with the following:

- void check() throws Exception
    - Input the total number of subjects
    - If the total subjects is greater than 5, then throw exception with suitable message else print the value.
- Main method
    - call check() method.
    - Run the program.
    - Now, surround the check() method with try catch.
    - Run the program again.

Question 2

```
import java.util.Scanner;

public class ExceptionTest {
        public static void main(String[] args) {
                int num = 0;
                do {
                        Scanner scan = new Scanner(System.in);
                        System.out.println("Enter a number between 11 to 20");

                        num = scan.nextInt();

                        if (num < 11 || num > 20){
                                System.out.println("\nIllegal value, " + num + " entered. Please try again!!");
                        }
                } while (num < 11 || num > 20);

                System.out.println("\nValue correctly entered!!");
        }
}
```

i. Compile and run the program. Enter an integer between 11 and 20 and see the output.

ii. The program is asking a number between 11 to 20. Run the program again and enter 14.5. Although the number is between 11 and 20, the program will abort. Examine the error message. You should see the word Exception, the method where the exception occurred (main), the class name of the exception(InputMismatchException), as well as the call stack listing the method calls.

iii. Add a try/catch block to catch and handle the InputMismatchException exception. Identify the statement(s) that caused the error as well as the portions of the program that depend upon these statements. Enclose appropriate statements within the try block. Follow the try block with the catch block also with appropriate statements. Note, the InputMismatchException class is defined in java.util and must be imported.

Question 3

Guessing Game Program - Write a program to:

- Generate a random number .

```java
// Generate a random number
import java.util.Random;

Random random = new Random();
int n = random.nextInt(10);
```

- Ask a user to input a number.
- Check if the input number is equal to the random number.
- Repeat until the user enters a correct number.
- Print the total incorrect attempts by user.
- Use try-catch to handle the exceptions like invalid inputs of string, decimal, etc.