**Lab3**

1. Print 10 times without any Loop: “Hello World”
2. Now print 10 times “Hello World” Using:
   * for loop
     + Incremental loop
     + Decremental Loop
   * While loop
     + Incremental loop
     + Decremental Loop
3. Create a class that defines a random number and prints all numbers  
   from 1 to that number
4. Create a class that defines two random values and prints all values between them. note - which variable holds the higher value is not known.
5. Create a class that defines a random number and prints all even numbers from 0 to that number
6. Create a class that defines two random values ‘max’ and ‘den’ and prints all the numbers from 0 to ‘max’ that can be divided with ‘den’
7. Create a class that defines a random number between 1-7.
   * print the number
   * prints the factorial value [4 🡪 1 X 2 X 3 X 4]
8. Regarding the factorial exercise print the factorial using:
   * for loop
     + Incremental loop
     + Decremental Loop
   * While loop
     + Incremental loop
     + Decremental Loop
9. Create a class that defines a random number with value between 0-10000 and print the length of digits: [1998 🡪 4]
10. Create a class that defines a random number with value between 0-10000 and print the right digit: [1998 🡪 8]
11. Create a class that defines a random number with value between 0-10000 and print the left digit: [1998 🡪 1]
12. Create a class that defines a random number with value between 0-10000 and print the opposite order of the number’s digits: [1998 🡪 8991]
13. Create a class that defines a random number with value between 0-10000 and print the following details with clear messages:
    * number of digits [4867 🡪 4]
    * the first left digit [ 6843 🡪 6]
    * sum of the number’s digits [ 473 🡪 14]
    * opposite order of the number’s digits [5892 🡪 2985]
14. Create a class that defines a random value between 0-100,000 and prints if it is a palindrome (a symmetric number like: 12321, 666, 47974, 404 …)
15. Create a class named ‘Boom’ that implements the game “7-Boom” for all values from 1 to 100. The game rules are:
    * if the current number can be divided by 7 – print “boom”
    * if the current number has the digit ‘7’ – print “boom”
    * otherwise – print the number as is
16. **Fibonacci Set**

* A Fibonacci set is an array of numbers: [1,1,2,3,5,8,13,21,34,55,89…]
* The first two elements set to 1:
  + a1 = 1
  + a2 = 1
* Each number is the sum value of the two previous numbers

1. Create a class that print the 40 first items of a Fibonacci series
2. Create a class that defines a random number named “index” with a value between 1-40 and prints the number in Fibonacci set that is located in the “index” position [6 🡪 8]
3. Create a class that defines a random value between 10-50 and prints Fibonacci set from 1 to that value
4. Assume: char[] arr = {'a','b','c','a','b','d','r','c'};
   * How many ‘a’ char inside the array?
   * How many ‘a’ or ‘c’ chars inside the array?
5. Assume: String name = “John Bryce”;
   * Convert this String into char array
   * How many ‘h’ letters inside the string?
6. Assume: String str = “Sara Shara Shir Cameach”;
   * Convert this String into char array
   * How many Vowels (A,E,I,O,U) letters inside the string?
7. Thank you !!