Coding Challenge #01

1. Write a Java Program to get a number in the console and print its factorial.

   Factorial of an integer is the product of an integer and all the positive integers below it. For ex - Factorial of 4 is 4 * 3 * 2 * 1 = 24

Definition of Completion:
   – Pseudo Code in .txt to WhatsApp group
   – Verify Pseudo Code covers all test data/cases
   – Fully functional code in .txt to WhatsApp group

Coding Challenge #02

1. Write a Java Program to find if the given
    number is a palindrome or not.

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group
– Verify Pseudo Code covers all test data/cases
– Fully functional code in .txt to WhatsApp group

Write a Java Program

1. To get 3 user inputs
   - Two Numbers
   - One String which can be either of the below "Add"/"Subtract"/"Multiply"/"Divide"

2. Perform the equivalent arithmetic operation.

3. Print the result in the console.

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a Java Program to find if the given string is a palindrome or not.

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #04_1

1. Write a Java Program to get two inputs numbers (a and b) from user and the print the numbers from a to b in the following pattern.

   1. If the number is divisible by 3 print FIZZ
   2. If the number is divisible by 5 print BUZZ
   3. If the number is divisible by 3 and 5 print FIZZBUZZ
   4. If not divisible by 3 or 5 print the number itself

Input numbers : 8   16

Output : 8   FIZZ   BUZZ   11   FIZZ   13   14   FIZZBUZZ   16

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group

– Verify Pseudo Code covers all test data/cases

– Fully functional code in .txt to WhatsApp group

Coding Challenge #05

1. Write a Java Program to print the Armstrong number from 100 to 1000.

Note : A **3** digit Armstrong number is a number that is equal to the sum of **cubes** of its digits. For example 153 is an Armstrong number since 1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153.

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group

– Verify Pseudo Code covers all test data/cases

– Fully functional code in .txt to WhatsApp group

1. Find repeated numbers in an Array List of numbers.

Declare an int array like

int[] a = {13,15,67,88,65,13,99,67,65,87,13}.

The result should be – Duplicated numbers are 13 67 65

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a Java program to find out if the given year is a leap year or not.

   A year that is exactly divisible by four is a leap year, except for years that are exactly divisible by 100, but these centurial years are leap years if they are exactly divisible by 400. For example, the years 1700, 1800, and 1900 were not leap years, but the years 1600 and 2000 were.

Definition of Completion:
– Pseudo Code in .txt to WhatsApp group
– Verify Pseudo Code covers all test data/cases
– Fully functional code in .txt to WhatsApp group

1. Write a Java program to find the second maximum number in an integer array.

   int[] intArray = {20, 340, 21, 879, 92, 21,474,83647,-200};

   The second largest number is 879.

   Your code should work even when all the integers of the array is negative numbers.

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #09

1. Write a Java program to print Floyd triangle by getting the number of rows.

   Ex:- Enter the No. of rows: 4

   1
   2 3
   4 5 6
   7 8 9 10

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a Java method to check whether a string is a valid password.

   Password rules:

   A password must have at least ten characters.

   A password consists of only letters and digits.

   A password must contain at least two digits and two letters.

   A password must contain at least one Capital letter.

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #11

1. Write a java program to find the percentage of uppercase letters, lowercase letters, digits and other special characters(including space) in the given string.

    For Ex- "**Tiger Runs @ The Speed Of 100 km/hour.**",

    Number of uppercase letters is 5. So percentage is 13.16%

    Number of lowercase letters is 20. So percentage is 52.63%

    Number of digits is 3. So percentage is 7.89%

    Number of other characters is 10. So percentage is 26.32%

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group

- Verify Pseudo Code covers all test data/cases

- Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to illustrate multi-level inheritance.

   Create classes like Vehicle, Car and Audi. Vehicle is Super class. Car extends Vehicle. Audi extends Car.

   Create default constructors in each class to print the class name.

   Create an object for the Audi class and check if all the class names are printed.

   Definition of Completion:
   - Pseudo Code in .txt to WhatsApp group
   - Verify Pseudo Code covers all test data/cases
   - Fully functional code in .txt to WhatsApp group

1. Get two inputs(1 Number and 1 Digit) from user. Write a java program to find the largest number that is less than the given number and also should not contain the given digit.

   For ex, If 154 is the given number and 5 is the given digit, then you should find the largest number less than 154 such that it should not contain 5 in it. In this case, 149 will be the answer.

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #14

1. Find the sum of all multiples of 3 or 5 less than 100.

   ex - For 20, the multiples of 3 or 5 less than 20 are 3,5,6,9,10,12,15,18. So their sum is 78.

Definition of Completion:
   – Pseudo Code in .txt to WhatsApp group
   – Verify Pseudo Code covers all test data/cases
   – Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to print all factors of number using non-static method and print all prime factors of number using static method.

   ex - For 6, the factors are 1,2,3 and 6.

   For 24, the prime factors are 2 and 3.

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group

– Verify Pseudo Code covers all test data/cases

– Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to construct a 4x4 Matrix and print the matrix contents in spiral form.

Ex -1   2   3   4
    5   6   7   8
    9   10   11   12
   13   14   15   16
1 2 3 4 8 12 16 15 14 13 9 5 6 7 11 10.

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group

– Verify Pseudo Code covers all test data/cases

– Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to print the numbers which has the greatest sum across the diagonal. Code must be generic for NxN matrix.

```
Ex -  1    2    3    4
      5    6    7    8
      9   10   11   12
     13   14   15   16
```

The diagonal is 4,7,10,13. The numbers across the diagonal are 1,2,3,5,6,9 and 8,11,12,14,15,16. Their sum is 26 and 76. So the output should be 8,11,12,14,15,16.

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group

– Verify Pseudo Code covers all test data/cases

– Fully functional code in .txt to WhatsApp group

Coding Challenge #18

1. Write a simple Java program to identify and form a string with unique characters.

    Ex. Input=Good Looking.

        Output should be = godlkin.

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to print the Pascal triangle till N rows by using static function.

   Ex. Input=5. Then the output should be.

                   1
                1   1
              1   2   1
            1   3   3   1
          1   4   6   4   1

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #20

1. Write a simple Java program to display the digits of the number in ascending order without duplicates.

    Ex. Input = 186553.

          Output = 13568.

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to reverse a String and a number using recursive functions.

Recursive functions are the functions that calls itself repeatedly until a specific condition is met.

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group

– Verify Pseudo Code covers all test data/cases

– Fully functional code in .txt to WhatsApp group

Coding Challenge #22

1. Write a simple Java program to swap two Strings without using a third variable.

Definition of Completion:
   – Pseudo Code in .txt to WhatsApp group
   – Verify Pseudo Code covers all test data/cases
   – Fully functional code in .txt to WhatsApp group

Coding Challenge #23

TestLeaf
Always Ahead

1. Write a simple Java program to convert a String in lowercase to uppercase without using String functions.

Definition of Completion:
- – Pseudo Code in .txt to WhatsApp group
- – Verify Pseudo Code covers all test data/cases
- – Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to print the longest positive sequence from given input of number and find the length of the sequence.

      Ex – Input = -1, 2, -3, -4, 5, 6, 7, -8, 9, 10

             Output = 5 6 7.

             Length is 3.

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #25

- Write a Java program to understand static and non-static keywords.

  – declare 2 String variables (1 static - "hello" and 1 non static - "world".

  – create two methods 1 static and 1 non static to print both variables.

  – create a main method to call both the methods.

  Expected o/p: Hello World should print twice.

Definition of Completion:

  – Pseudo Code in .txt to WhatsApp group

  – Verify Pseudo Code covers all test data/cases

  – Fully functional code in .txt to WhatsApp group

1. Write a Java program to get 3 digit number from the user and print all the possible combinations of the numbers with the digits present.(code should be generic for any digit number)

Ex – Input – 123

Output – 123 , 132 , 213 , 231 , 312 , 321

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #27

1. Write a simple Java program to sort the HashMap based on the key.

   Sample:

   Before Sort: After Sort:

   21=Twenty One   21=Twenty One

   41=Thirty One   31=Thirty One

   31=Thirty One   41=Thirty One

Definition of Completion:

   – Pseudo Code in .txt to WhatsApp group

   – Verify Pseudo Code covers all test data/cases

   – Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to replace two or more spaces with single space in string and delete only trailing space?

    Input : " aa bbbbb   ccc   d   "

    Output : " aa bbbbb ccc d"

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to verify if the given String has exactly 5 digits in it.

     Input#1: "12345"   Input#2: "123456"   Input#3: "123.45"

     Output : true   Output : false   Output : false

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to find a number whether its a perfect number or not.

   A perfect number is a positive integer that is equal to the sum of its proper positive divisors, that is, the sum of its positive divisors excluding the number itself. Equivalently, a perfect number is a number that is half the sum of all of its positive divisors.

   Ex- 28 is a perfect number. 1+2+4+7+14 = 28

   and (1+2+4+7+14+28)/2=56/2 = 28

Definition of Completion:
   – Pseudo Code in .txt to WhatsApp group
   – Verify Pseudo Code covers all test data/cases
   – Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to replace the special characters in a given String.

   Input = "{Java}/*(Selenium)"
   Output = "Java Selenium"

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #32

1. Write a Java program to sort a Map based on the Values.

   Input : One=1, Seventeen=17, Twelve=12, Five=5, Two=2, Twenty Five=25
   Output : One=1, Two=2, Five=5, Twelve=12, Seventeen=17, Twenty Five=25

Definition of Completion:
   – Pseudo Code in .txt to WhatsApp group
   – Verify Pseudo Code covers all test data/cases
   – Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to print below pattern like a star.

        Ex – input = 5

```
        1
      1 2 3
    1 2 3 4 5
      1 2 3
        1
```

Note : If input is even, terminate the program else continue to print the above start pattern.

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group

- Verify Pseudo Code covers all test data/cases

- Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to print 111, 222, 333, 444, 555, 666, 777, 888, 999.

Definition of Completion:

- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group

Coding Challenge #35

1. Write a simple Java program to find the duplicate numbers in an int array and store in to a separate array.

Ex - int a[] = {1,2,4,2,3,4,5,6,7,5};

Output - Duplicated numbers are [2, 4, 5]

Definition of Completion:

– Pseudo Code in .txt to WhatsApp group
– Verify Pseudo Code covers all test data/cases
– Fully functional code in .txt to WhatsApp group

1. Write a simple Java program to rearrange a given number in ascending order of their digits.

Ex – Input - 19673

Output - 13679

Definition of Completion:
- Pseudo Code in .txt to WhatsApp group
- Verify Pseudo Code covers all test data/cases
- Fully functional code in .txt to WhatsApp group