ASSIGNMENT 2

1. Write a java program to find following using looping, decision making and Scanner class without function

   I.   To verify whether a number is palindrome or not?
   II.   Verify whether difference between Summation of all even digits and odd digits of and prime digits is equal to half of sum of all digits of any number
   III.   Difference between average of all even digits except divisible by 6 and 4 and avearge of all odd digits except divisible by 3 and 5 of any digit number.
   IV.   Find kth digit from front side or back side of any digits number and find its positional value
   V.   Difference between Sum of product of consecutive even digits except 4 and 6 and Sum of product of consecutive odd digits except 5 and 7 of any digit number.

2. Write a java program to find sum of product of corresponding digits of two any digit number. Such as n=1234 m=7896 output=6*4+9*3+8*2+7*1

3. Write a java program to find sum of product of corresponding even digits of first any digit number and corresponding odd digit of any digit number Such as n=1234 m=4567

output=4*7+2*5

4. Write a java program to compute following series and take input num using Scanner class

I. $1-x^2/2! + x^3/3!-x^4/4!+\text{------}+x^n/n!$

     Where x= Sum of product of consecutive digits of num

         n= Sum of product of consecutive even digits of num

II. $x-x^3/3! + x^5/5!-x^7/7!+\text{------}+x^n/n!$

      Where x= Sum of product of consecutive digits of num

      n= Sum of product of consecutive odd digits of num

III. $1+x^2/2! + x^4/4!+x^6/6!+\text{------}+x^n/n!$
     Where x= Sum of product of consecutive digits of num

      n= Sum of product of consecutive prime digits of num

IV. $x-x^3/3! + x^5/5!-x^7/7!+x^{11}/11!\text{------}+x^n/n!$
     Where x= Sum of all even digits of num
        n= Sum of all odd digits of num

5. Write a java program to find average of all even, odd and prime numbers of user defined number of elements using command line arguments?

6. WAP to find GCD and LCM using command line arguments?

7. WAP to find factorial of a number using while, do while and for loop and use command line argument in one program?

8. WAP to culculate following of student having 4 subjects C,C++,Java, and Python. Mark of each subject should be inbetween 0 to 100 and credit is 3.

a) take mark of each subject using scanner class

b) Find total mark and %age of marks obtained

c) Find grade of each subject

d) find SGPA and CGPA of each subject. For sgpa and cgpa calaculation, use the formula given in your gradesheet

9. Write a program to generate Fibonacci series up to n terms? Value of n will be accepted from user?

10. Write a program to perform following using the numbers in between 23 to 249?

a) find number of even numbers that ends with 0 and 4?

b) find number of odd numbers that ends with 5 and 7?

c) find number of prime numbers?

d) find number of palindrome numbers?

e) find difference between average of palindrome and prime numbers?

f) Check whether the difference between largest even number and smallest odd number is palindrome or not?

g) find first five largest even number and smallest odd number?

h) find the sum of product of corresponding digits of 2nd largest even number and 3rd smallest odd number?

11. Write a java program to find following of 10 numbers using command line arguments? Do not use array?

a) find difference between greatest and smallest number?

b) find difference between average of all odd numbers and even numbers?

<p style="text-align:center; color:red;">ARRAY</p>

1) Write a program to find average and also find total no. of odd, even, prime and palindrome number available in an array of 30 user defined numbers?

2) Write a program to find average of the numbers available in left and right side of the number required by user if available in an array of 10 user defined number otherwise replace the item of the array placed in middle position with the number required by user and calculate output?

3) Write a program to sort 10 numbers in ascending order and find the sum of product of 2nd smallest and 3rd largest number?

4) Write a program to sort 10 numbers in descending order and average of 3rd largest and 4th smallest number in an array of 10 user defined numbers?

5) Write a program to find summation, subtraction and multiplication of two 3X3 matrices?

6) Write a program to determinant and inverse of a 3X3 matrics?

7) Write a program to find transpose of a 3X3 matrics?