**ASSIGNMENT -3**

**CSA0985**

**PROGRAMMING IN JAVA**

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1. **Write a java program to calculate the average value of array elements?**

class average

{

public static void main(String[] args) {

int[] numbers = new int[]{20, 30, -25, 35, 16, 60, -200};

int sum = 0;

for(int i=0; i < numbers.length ; i++)

sum = sum + numbers[i];

double average = sum / numbers.length;

System.out.println("Average value of the array elements is : " + average);

}

}

**Output:**

Average value of the array elements is : -9.0

**2.Write a java program to find the maximum and minimum value of array?**

class Main{

public static void findMinAndMax(int[] nums){

int max = nums[0];

int min = nums[0];

for (int i = 1; i < nums.length; i++){

if (nums[i] > max) {

max = nums[i]; }

else if (nums[i] < min) {

min = nums[i]; }

}

System.out.println("The minimum array element is " + min);

System.out.println("The maximum array element is " + max);

}

public static void main(String[] args){

int[] nums = { 5, 7, 2, 4, 9,10};

findMinAndMax(nums);}

}

**Output:**

The minimum array element is 2

The maximum array element is 10

**3.Write a java program to find the second largest number in an array?**

class LargestNumberInAnArray {

public static void main(String args[]){

int temp, size;

int array[] = {10, 20, 25, 63, 96, 57};

size = array.length;

for(int i = 0; i<size; i++ ){

for(int j = i+1; j<size; j++){

if(array[i]>array[j]){

temp = array[i];

array[i] = array[j];

array[j] = temp;

}

}

}

System.out.println("second largest number is: "+array[size-2]);

}

}

**Output:**

second largest number is: 63

**4.Write a java program to add two matrices?**

class MatrixAddition{

public static void main(String args[])

{

int a[][]={{1,3,4},{2,4,3},{3,4,5}};

int b[][]={{1,3,4},{2,4,3},{1,2,4}};

int c[][]=new int[3][3];

for(int i=0;i<3;i++)

{

for(int j=0;j<3;j++)

{

c[i][j]=a[i][j]+b[i][j];

System.out.print(c[i][j]+" ");

}

System.out.println();

}

}

}

**Output:**

2 6 8

4 8 6

4 6 9

**5.Write a java program to display the cube of the given integer?**

import java.util.Scanner;

public class CubeCalculation

{

public static void main(String[] args)

{

Scanner scan = new Scanner(System.in);

System.out.println("Enter number:");

int number = scan.nextInt();

scan.close();

int cube = number\*number\*number;

System.out.println("Cube of "+ number+ " is "+ cube);

}

}

**Output:**

Enter number:4

Cube of 4 is 64

**6.Write a java program that takes from user to find leap year or not?**

import java.util.Scanner;

class Leapyear

{

public static void main(String arg[])

{

int year;

Scanner sc=new Scanner(System.in);

System.out.print("enter any calendar year :");

year=sc.nextInt();

if(year!=0)

{

if(year%400==0)

System.out.println(year+" is a leap year");

else if(year%100!=0)

{

if(year%4==0)

System.out.println(year+" is a leap year");

else

System.out.println(year+" is not a leap year");

}

else

System.out.println(year+" is not a leap year");

}

else

System.out.println("Year zero does not exist ");

}

}

**Output:**

enter any calendar year :2004

2004 is a leap year

**7.Write a java program** **to display n terms of natural numbers?**

import java.util.Scanner;

class sum {

public static void main(String[] args)

{

int i, n, sum=0;

{

Scanner in = new Scanner(System.in);

System.out.print("Input number: ");

n = in.nextInt();

}

System.out.println("The first n natural numbers are : "+n);

for(i=1;i<=n;i++)

{

System.out.println(i);

sum+=i;

}

System.out.println("The Sum of Natural Number upto "+n+ " terms : " +sum);

}

}

**Output:**

Input number: 5

The first n natural numbers are : 5

1

2

3

4

5

The Sum of Natural Number upto 5 terms : 15

**8.Write a java program** **to display multiplication table up to 10 terms?**

import java.util.Scanner;

public class Multiplication\_Table {

public static void main(String[] args) {

Scanner s = new Scanner(System.in)

System.out.print("Enter number:");

int n=s.nextInt();

for(int i=1; i <= 10; i++) {

System.out.println(n+" \* "+i+" = "+n\*i);

} }}

**Output:**

Enter number:5

5 \* 1 = 5

5 \* 2 = 10

5 \* 3 = 15

5 \* 4 = 20

5 \* 5 = 25

5 \* 6 = 30

5 \* 7 = 35

5 \* 8 = 40

5 \* 9 = 45

5 \* 10 = 50