Session_2
Practice Problems on
Loops and Single Dimensional Array in Java

Given an integer, N, print its first 10 multiples. Each multiple N * i (where1≤ i≤ 10) should be printed on a new line in the form N * i= result:

Solution:

```
import java.util.Scanner;

public class MulTable
{
    public static void main(String[] args)
       {
        Scanner in = new Scanner(System.in);
        System.out.println("Enter a number");
        int N = in.nextInt();

         int i = 1;
         while(i<=10) {
            System.out.println(N +"*"+ i +"=" + N*i);
            i++;
        }
    }
}
```

Develop a Java to that calculates the Addition, Subtraction, Multiplication and Division using menu driven approach. (Do…while loop)

```
import java.util.Scanner;
public class Calculator {
    static int result;
    public static void main(String[] args) {

            Scanner scan = new Scanner(System.in);
            System.out.println("Welcome to My Calculator");
            char ch='y';
            //Creating Menu
            do{

                System.out.println("To perform addition, Enter 1");
                System.out.println("To perform subtraction, Enter 2");
                System.out.println("To perform division, Enter 3");
                System.out.println("To perform multiplication, Enter 4");
                System.out.println("To Exit, Enter 9");
                System.out.println("Enter choice::");
                int choice = scan.nextInt();
                System.out.println("Enter first number::");
                int firstNumber = scan.nextInt();
                System.out.println("Enter second number::");
                int secondNumber = scan.nextInt();
```

```
                    switch(choice){
                    case 1: System.out.println("Adding the numbers");
                                    result = firstNumber+secondNumber;
                                    System.out.println("Addition result="+ result);

                    break;
                    case 2: System.out.println("Subtracting the numbers");
                                    result = firstNumber-secondNumber;
                                    System.out.println("Subtraction result="+ result);
                    break;
                    case 3: System.out.println("Dividing the numbers");
                                    result = firstNumber/secondNumber;
                                    System.out.println("Division result="+ result);
                    break;
                    case 4: System.out.println("Multiplying the numbers");
                                    result = firstNumber*secondNumber;
                                    System.out.println("Multiplication result="+ result);
                    break;
                    case 9: System.out.println("Thanks for using my Calculator.");
                                    System.exit(0);
                    break;
                    default: System.out.println("Incorrect input!!! Please re-enter choice from our
menu");
                    }
                    System.out.println("Do you want to Continue...Y/N");
                    ch=scan.next().charAt(0);
            }while(ch=='y'||ch=='Y');

    }

}
```

Each year the Department of Traffic Accidents receives accident count reports from a number of cities and towns across the country. Given details of ‘n’ days, write a Java program to determine the average number of accidents and for each day, print the difference between the number of accidents on that day and average. For example, if the number of accidents is 5 and the values are 10, 12, 15, 13, 5 then average is 11 and the difference of values are 1, 1, 4, 2, 6.

Input:

Value of ‘n’, the number of accidents

Output;

Average and ‘n’ values that is the difference between average and value

```
import java.util.Scanner;

public class ex5
 {
 public static void main(String[] args)
 {

 int acc_details[]=new int[20];
 int num_of_days,counter;
 float mean,total=0.0f;
Scanner sc=new Scanner(System.in);
System.out.println("Enter the number of days");
num_of_days=sc.nextInt();
for(counter=0;counter<num_of_days;counter++){
System.out.println("Enter the accident Details");
acc_details[counter]=sc.nextInt();
total+=acc_details[counter];
 }
 mean=total/(float)num_of_days;
System.out.println("The mean is "+mean);
System.out.println("The differnce is ");
for(counter=0;counter<num_of_days;counter++){
System.out.println(Math.abs(mean-acc_details[counter]));

}
}
}
```

Write a Java program to find the duplicate elements in an array.

```
public class Duplicate_ele
{
	public static void main(String[] args)
	{
		String
in[]={"Amazon","Facebook","Google","Amazon","Facebook","LinkedIn","Twitter"};
		 for(int i=0;i<in.length;i++){
			for(int j=i+1;j<in.length;j++){
			     if(in[i].equals(in[j]))
				 System.out.println(in[i]);
			}
		 }
	}
}
```

Write a Java program to get the marks of ‘n students. Display them in the reverse order.

```
public class ArrayReverse
{

	public static void main(String[] args)
	{
		 int[] marks={20,11,56,90,23,56};
		 System.out.println("The element of the array");
		 display(marks);
		 int[] rev;
```

```
            rev=revarray(marks);
            System.out.println("Reversed elements of the array");
            display(rev);
        }
    public static void display(int[] input){

       for(int c=0;c<input.length;c++)
           System.out.println(input[c]);
    }
    public static int[] revarray(int[] input){
        int[] rev=new int[input.length];

        for(int i=0,j=rev.length-1;i<input.length;i++,j--)
              rev[j]=input[i];
     return rev;
    }
}
```