**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;

}

}