**ASSIGNMENT- 4.1**

1. Write a java code with the class named ‘acad’ and a method ‘main’. Hard Code the program with two integers and print the sum of those two.

**PROGRAM:**

package Session\_4;

public class acad {

public static void main(String[] args){

int a=4,b=6;

System.out.println(a+b);

}

}

1. Rewrite the above code, where, inputs are provided by the user at runtime and the output is printed.

**PROGRAM:**

package Session\_4;

import java.io.IOException;

import java.util.Scanner;

public class Task2\_acad {

private static Scanner scan;

public static void main(String[] args) throws IOException {

// TODO Auto-generated method stub

int a=0;

int b=0;

scan = new Scanner(System.in);

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

a = scan.nextInt();

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

b = scan.nextInt();

System.out.println("Sum of "+ a + " & "+ b + " is " + (a+b));

}

}

1. Write a program with method name sum() that accepts two parameters from user and print the sum of two numbers. Output format should be as:

First number is:

Second number is:

Sum is:

**PROGRAM:**

package Session\_4;

import java.util.Scanner;

public class Task\_3 {

private static Scanner scan;

public static void main(String[] args) {

// TODO Auto-generated method stub

int a =0, b=0;

scan = new Scanner(System.in);

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

//to record input from user into variable a

a = scan.nextInt();

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

//to record input from user into variable b

b = scan.nextInt();

System.out.println("First number is :" + a);

System.out.println("Second number is :" + b);

System.out.println("Sum is " + sum(a,b));

}

public static int sum(int a, int b){

return a+b;

}

}

1. Write a program to accepts two numbers from stdin and find all the odd as well as even

numbers present in between them.

**PROGRAM:**

package Session\_4;

import java.util.ArrayList;

import java.util.List;

import java.util.Scanner;

public class Task\_4 {

private static Scanner scan;

public static void main(String[] args) {

// TODO Auto-generated method stub

int a=0,b=0;

int temp;

List<Integer> even = new ArrayList<Integer>();

List<Integer> odd = new ArrayList<Integer>();

scan = new Scanner(System.in);

System.out.println("First Number: ");

a= scan.nextInt();

System.out.println("Second Number: ");

b= scan.nextInt();

if(a>b){

temp = b;

b = a;

a = temp;

}

for(int x= a; x<=b; x++){

if(x%2 == 0){

even.add(x);

}

else odd.add(x);

}

System.out.println("Even Numbers are: " + even);

System.out.println("Odd Numbers are: " + odd);

}

}

1. Joe is scared to go to school. When her dad asked the reason, joe said she is unable to

complete the task given by her teacher. The task was to find the “first 10 multiples” of the number entered from stdin . Eg:

Input: 3

O/p:

3 x 1 = 3

3 x 2 = 6

......

3 x 10 = 30

Help Joe in completing the task!

**PROGRAM:**

package Session\_4;

import java.util.Scanner;

public class Task\_5 {

private static Scanner scan;

public static void main(String[] args) {

// TODO Auto-generated method stub

int a;

scan = new Scanner(System.in);

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

while(!scan.hasNextInt()){

scan.nextLine();

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

}

a = scan.nextInt();

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

System.out.println(a + " \* " + x + " = " + a\*x);

}

}

}

1. Write a program consisting method sum() and demonstrate the concept of method overloading using this method.

**PROGRAM:**

package Session\_4;

import java.util.ArrayList;

import java.util.List;

import java.util.Scanner;

public class Task\_6 {

private static Scanner scan;

public static void main(String[] args) {

// TODO Auto-generated method stub

int numb;

List<Integer> value = new ArrayList<Integer>();

scan = new Scanner(System.in);

do{

System.out.println("How many number you want to enter (2/3): ");

if(!scan.hasNextInt())

{

scan.nextLine();

System.out.println("Please enter a valid input (2/3): ");

}

numb = scan.nextInt();

}while(!(numb==2 || numb==3));

for(int x=0; x<numb;x++){

System.out.println("Number "+ (x+1));

if(!scan.hasNextInt())

{

scan.nextLine();

System.out.println("Please enter a valid input: ");

}

value.add(scan.nextInt());

}

if(numb == 2) sum(value.get(0).intValue(),value.get(1).intValue());

if(numb == 3) sum(value.get(0).intValue(),value.get(1).intValue(),value.get(2).intValue());

}

//Overloaded sum() - takes 2 parameters

public static void sum(int a, int b) {

System.out.println(a +" + " + b + " = " + (a+b));

}

//Overloaded sum() - takes 3 parameters

public static void sum(int a, int b, int c) {

System.out.println(a +" + " + b + " + " + c +" = " + (a+b+c));

}

}

1. Can you overload a method with same return type.? Explain your answer with proper logic.

**Solution:**

The compiler does not consider return type when differentiating methods, so you cannot declare two methods with the same signature even if they have a different return type.

It will throw compilation error.

*Ex:*

Public class Main{

Public int foo(){ return 10; }

//Compiler error: foo() is already defined

Public static void main(String args[])

{

}

}

1. Write a program in java using Arrays, that sorts the element in descending order.

**PROGRAM:**

import java.util.Arrays;

import java.util.Collections;

public class Task\_8{

public static void main(String[] args) {

// int Array

Integer[] intArray = new Integer[] {

new Integer(15),

new Integer(9),

new Integer(16),

new Integer(2),

new Integer(30)

};

// Sorting int Array in descending order

Arrays.sort(intArray, Collections.reverseOrder());

// Displaying elements of int Array

System.out.println("Int Array Elements in reverse order:");

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

System.out.println(intArray[i]);

// String Array

String[] stringArray =

new String[] { "FF", "PP", "AA", "OO", "DD" };

// Sorting String Array in descending order

Arrays.sort(stringArray, Collections.reverseOrder());

// Displaying elements of String Array

System.out.println("String Array Elements in reverse order:");

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

System.out.println(stringArray[i]);

}

}