**Assignment-2**

**1) Write a java program for Matrix Addition.**

import java.util.\*;

public class addition

{

public static void main(String[] args) {

int[][] a={{2,4,6},{4,7,1},{9,3,5}};

int[][] b={{3,1,5},{2,6,3},{3,3,1}};

int i,j;

for(i=0;i<a.length;i++){

for(j=0;j<a[i].length;j++){

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

}

}

for(i=0;i<a.length;i++){

for(j=0;j<a[i].length;j++){

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

}

System.out.print("\n");

}

}

}

**Output:** 5 5 11

6 13 4

1. 6

**2)Write a java program for Matrix Multiplication.**

import java.util.\*;

public class Program

{

public static void main(String[] args)

{

int[][] a={{2,4,6},{4,7,1},{9,3,5}};

int[][] b={{3,1,5},{2,6,3},{3,3,1}};

int[][] c=new int[a.length][a[0].length];

int i,j,k;

for(k=0;k<a.length;k++){

for(i=0;i<a.length;i++){

int p=0;

for(j=0;j<a[i].length;j++){

p+=a[k][j]\*b[j][i];

}

c[k][i]=p;

}

}

for(i=0;i<c.length;i++){

for(j=0;j<c[0].length;j++){

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

}

System.out.print("\n");

}

}

}

**Output:** 32 44 28

29 49 42

1. 2 59

**3)Write a java program to demonstrate method overloading.**

Method overloading can be done by two methods having same name but differ in arguments.

**Ex:** class **overloading**

{

public void **display**(char c)

{

System.out.println(c);

}

public void **display**(char c, int num)

{

System.out.println(c +num);

}

}

class **example**

{

public static void main(String args[])

{

**overloading** method = new **overloading();**

method.display('a');

method.display('a',10);

}

}

**Output:** a

a10

**4).Write a java program to create a class Point with two data members x & y. Include all constructors and display().**

public class point{

int x;

int y;

point(int x1,int y1){

x=x1;

y=y1;

}

void display(){

System.out.println("("+x+","+y+")");

}

public static void main(String[] args){

point new\_point=new point(3,6);

new\_point.display();

}

}

**Output:**(3,6)

**5)Write a java program using static method.**

class method {  
  public static void main(String[] args) {  
    display();  
  }

  static void display() {  
    System.out.println("calling without object is known as static method");  
  }  
}

**Output:**

calling without object is known as static method

**Theory Questions**

**1).What is conditional statement?**

It is the statement that programming language used to decide which code has to be run when the condition met is true.

**2) Write the syntax of switch..case statement.**

**Syntax:**

Switch(condition){

**Case** condition-1:

Statement;

**Break;**

**Case** condition-2**:**

Statement;

**Break;**

**default** condition**:**

statement;

}

**3.Write the difference between break and continue statement.**

**Break continue**

It is used for immediate it is used for skipping iteration when

Loop termination when condition met true on current iteration

Condition becomes true

**4.What is looping statement?**

Generally loops are used to iterate in certain a range,the statements inside loops are looping statements which are executed repeatedly more times upto satisfying the condition.

**5. Write the difference between while and do..while statement**.

**While loop do-while loop**

The while loop can iterate the statements The do while loop is similar to while loop

If the condition becomes true otherwise it but it can execute single time if the condition

will not execute even a single time. becomes false.

**6. What is array? How it is created?**

Array is a collection of elements of same data type.it stores the data in sequential index, here index is the location of data.

in java array can be created as follows

data-type[ ] array\_name=new data-type[array-size];

**7. What is class?**

 A class is the basic building block of an object-oriented language such as Java. It is a

template that describes the data and behavior associated with instances of that class.

It is a container of different methods.

**8. What is constructor?**

A constructor is used to initialize the state of an object. constructor must not have a return

type. In java constructor name must be same as the class name.

**9. What is the use of copy constructor?**

The copy constructor is a constructor which creates an object by initializing it with an object

of the same class, which has been created previously. The copy constructor is used to

Initialize one object from another of the same type.

**10. What is the use of this keyword?**The this keyword refers to the current object in a method or constructor. The most

common use of the this keyword is to eliminate the confusion between class attributes and

parameters with the same name**.**

**11. What is method overloading?**

If a class has multiple methods having same name but different in parameters, it is known

as Method Overloading.

If we have to perform only one operation, having same name of the methods increases the

readability of the program.

**12. What is static variable?**

Static variables are essentially global variables, these variables are created when the program starts and destroyed when the program stops. Static variables can be accessed by calling with the class name ClassName.VariableName.

**13. What is access modifier?**

Access modifiers in Java helps to restrict the scope of a class, constructor , variable , method or data member. When no access modifier is specified for a class , method or data member It is said to be having the default access modifier by default.

**14. Write the difference between instance and static methods.**

Instance method are methods which require an object of its class to be created before it can be called.

Static methods are the methods in Java that can be called without creating an object of class.

**15. What is object? How it is created?**

An entity that has state, behaviour and entity is known as an object. In java everything is treated as object.

In java, the object can be created by “new” keyword. Before creating an object there need to define class which acts container of these objects.