**Program 1**

public class p1

{

public static int fibonacciRecursive(int n)

{

if(n<=1)

{

return n;

}

return fibonacciRecursive(n-1)+fibonacciRecursive(n-2);

}

public static int fiboiterative(int n)

{

if(n<=1)

{

return n;

}

int prev1=0,prev2=1;

int result=0;

for(int i=2;i<=n;i++)

{

result=prev1+prev2;

prev1=prev2;

prev2=result;

}

return result;

}

public static void main(String args[])

{

int n=10;

System.out.println("fibo using recursive:");

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

{

System.out.println(fibonacciRecursive(i)+" ");

}

System.out.println();

System.out.println("fibo using iterative:");

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

{

System.out.println(fiboiterative(i)+" ");

}

}

}

**Program 2**

public class p2

{

public static void main(String args[])

{

int[][] matrix1={

{1,2,3},

{4,5,6},

{7,8,9}};

int[][] matrix2={

{9,8,7},

{6,5,4},

{3,2,1}};

int rows1=matrix1.length;

int cols1=matrix1[0].length;

int rows2=matrix2.length;

int cols2=matrix2[0].length;

if(rows2 != cols1)

{

System.out.println("Matrix multiplication is not possible");

return;

}

int[][] result=new int[rows1][cols2];

for(int i=0;i<rows1;i++)

{

for(int j=0;j<cols2;j++)

{

result[i][j] = 0;

for(int k=0;k<cols1;k++)

{

result[i][j] += matrix1[i][k] \* matrix2[k][j];

}

}

}

System.out.println("Resultant matrix after multiplication");

for(int i=0;i<rows1;i++)

{

for(int j=0;j<cols2;j++)

{

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

}

System.out.println();

}

}

}

**Program 3**

// Main class

import java.util.\*;

import mca.student

class pgm3\_student {

public static void main(String[] args) {

String name;

int roll;

int m1, m2, m3;

Scanner br = new Scanner(System.in);

System.out.print("Enter roll\_no: ");

roll = br.nextInt();

br.nextLine(); // Consume the leftover newline character

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

name = br.nextLine(); // Use nextLine() to allow for names with spaces

System.out.print("Enter subject1 mark: ");

m1 = br.nextInt();

System.out.print("Enter subject2 mark: ");

m2 = br.nextInt();

System.out.print("Enter subject3 mark: ");

m3 = br.nextInt();

// Create student object

student s = new student(roll, name, m1, m2, m3);

// Display student details

s.display();

}

}

**Program 4**

import java.awt.\*;

import java.applet.\*;

/\* <applet code="pgm4\_personal\_info" width=250 height=150> </applet> \*/

public class pgm4\_personal\_info extends Applet

{

public void init()

{

setBackground(Color.blue);

}

public void paint(Graphics g)

{

g.drawString("Name: Nagarjun",6,50);

g.drawString("Age: 21",6,70);

g.drawString("Address: Banglore", 6,90);

g.drawString("Course: MCA", 6,110);

}

}

**Program 5**

import java.util.Scanner;

class Employee

{

String name;

int id;

String department;

double salary;

void displayDetails(){

System.out.println("Employee ID: "+id);

System.out.println("Employee name: "+name);

System.out.println("Department: "+department);

System.out.println("Salary: "+salary);

double da, ta, cca, hra, gross;

da = (salary \* 10) / 100;

hra = (salary \* 15) / 100;

cca = 200;

ta = (salary \* 2) / 100;

gross = salary + da + hra + cca + ta;

System.out.println("DA: "+da);

System.out.println("HRA: "+hra);

System.out.println("CCA: "+cca);

System.out.println("TA: "+ta);

System.out.println("Gross Salary: "+gross);

}

}

public class pgm5\_EmployeeDetails

{

public static void main(String args[]){

Scanner sc = new Scanner(System.in);

Employee emp = new Employee();

System.out.print("Enter employee ID: ");

emp.id = sc.nextInt();

System.out.print("Enter employee name: ");

emp.name = sc.next();

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

emp.department = sc.next();

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

emp.salary = sc.nextDouble();

System.out.println("\nEmployee Details");

emp.displayDetails();

}

}

**Program 6**

import java.awt.\*;

import java.applet.\*;

/\* <applet code="Pgm6\_fact" width=300 height=150><param name="number" value="5"> </applet>\*/

public class Pgm6\_fact extends Applet

{

int number;

long factorial;

public void init()

{

setBackground(Color.cyan);

String param=getParameter("number");

if(param!=null){

number=Integer.parseInt(param);

factorial=factorial(number);

}

}

public void paint(Graphics g){

g.drawString("Number: "+number,20,50);

g.drawString("Factorial: "+factorial,20,70);

}

private long factorial(int n){

if(n<=1)

return 1;

else

return n\*factorial(n-1);

}

}

**Program 7**

import java.awt.\*;

import java.applet.\*;

import java.awt.event.\*;

/\*<applet code="Pgm7\_keypress" width=500 height=500></applet>\*/

public class Pgm7\_keypress extends Applet implements KeyListener{

String msg=" ";

String msg1="Press M or m or A or a or E or e or N or n";

public void init(){

addKeyListener(this);

}

public void keyPressed(KeyEvent ke)

{

int key=ke.getKeyCode();

switch(key){

case KeyEvent.VK\_M:msg="Good Morning!";

break;

case KeyEvent.VK\_A:msg="Good Afternoon!";

break;

case KeyEvent.VK\_E:msg="Good Evening!";

break;

case KeyEvent.VK\_N:msg="Good Night!";

break;

}

repaint();

}

public void keyReleased(KeyEvent ke)

{

}

public void keyTyped(KeyEvent ke){

repaint();

}

public void paint(Graphics g){

g.setColor(Color.blue);

g.drawString(msg,100,20);

g.drawString(msg1,20,200);

}

}

**Program 8**

import java.awt.\* ;

import java.awt.event.\*;

public class Pgm8\_Mouse extends Frame implements MouseListener

{

Label L;

Pgm8\_Mouse()

{

addMouseListener(this);

L=new Label();

L.setBounds(20,50,100,20);

add(L);

setTitle("Mouse Handling Events");

setSize(300,300);

setLayout(null);

setVisible(true);

addWindowListener(new WindowAdapter()

{

public void windowClosing(WindowEvent we)

{

dispose();

}

});

}

public void mouseClicked(MouseEvent e)

{

L. setText("Mouse Clicked");

}

public void mouseEntered(MouseEvent e)

{

L.setText("Mouse Entered");

}

public void mouseExited(MouseEvent e)

{

L.setText("Mouse Exited");

}

public void mousePressed(MouseEvent e)

{

L. setText("Mouse Pressed");

}

public void mouseReleased(MouseEvent e)

{

L.setText("Mouse Released");

}

public static void main(String[] args)

{

new Pgm8\_Mouse();

}

}

**Program 9**

import java.sql.\*;

import javax.sql.\*;

public class pgm\_connect{

public static void main(String[] args){

String url = "jdbc:mysql://localhost:3306/pgm9\_connect?useSSL=false";

String username = "root";

String password = "root";

try{

Connection con = DriverManager.getConnection(url, username, password);

System.out.println("Connected to MySQL database successfully!");

con.close();

}

catch (SQLException e){

e.printStackTrace();

}

}

}

**Program 10**

import java.sql.\*;

import javax.sql.\*

public class pgm10\_connect {

public static void main(String[] args){

String url = "jdbc:mysql://localhost:3306/pgm9\_connect?useSSL=false";

String username = "root";

String password = "root";

Statement stmt;

ResultSet rs;

try {

Connection con = DriverManager.getConnection(url, username, password);

System.out.println("Connected to MySQL database successfully!");

stmt = con.createStatement();

System.out.println("Creating a table");

String query\_customer = "create table customer" + "(cid integer primary key,"+"name varchar(100),"+"dob date,"+"address varchar(255))";

stmt.executeUpdate(query\_customer);

System.out.println("Table is created");

System.out.println("Inserting records");

String r1 = "insert into customer(cid,name,dob,address)"+"values('101','Neeta','1999-08-20','Koramangala')";

stmt.executeUpdate(r1);

System.out.println("Row is inserted");

System.out.println("Inserting records");

String r2 = "insert into customer(cid,name,dob,address)"+"values('102','Sheril','1999-08-20','Indiranagar')";

stmt.executeUpdate(r2);

System.out.println("Row is inserted");

rs = stmt.executeQuery("select \* from customer");

System.out.println("Displaying record");

while(rs.next()){

System.out.println("ID: "+rs.getInt("cid"));

System.out.println("NAME: "+rs.getString("name"));

System.out.println("DOB: "+rs.getDate("dob"));

System.out.println("ADDRESS: "+rs.getString("address"));

}

con.close();

}

catch (SQLException e){

e.printStackTrace();

}

}

}