**Small (5 marks)**

1. **Write a program to count number of words in given string.**

public class P1{

    public static void main(String args[]){

    String s = "welcome to candid java tutorial";

    int count = 1;

    for (int i = 0; i < s.length() - 1; i++){

    if ((s.charAt(i) == ' ') && (s.charAt(i + 1) != ' ')){

    count++;

    }

    }

    System.out.println("Number of words in a string = " + count);

    }

    }

1. **Write a program to reverse the string and check whether it is palindrome or not**

public class P2{

    public static void main(String[] args){

    String inpstr ="NITIN";

    char[] inpArray = inpstr.toCharArray();

    char[] revArray = new char[inpArray.length];

    int j=0;

    for (int i = inpArray.length - 1; i >= 0; i--){

    revArray[j]=inpArray[i];

    j++;

    }

    String revstr=String.valueOf(revArray);

    if(inpstr.equals(revstr)){

        System.out.println("The given string is a Palindrome");

    }else{

        System.out.println("The given string is not a Palindrome");

    }

    }

    }

1. **Write a Java program to reverse an array of integer values.**

import java.util.Scanner;

public class P3 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of elements in the array: ");

        int n = scanner.nextInt();

        int[] arr = new int[n];

        System.out.println("Enter the elements of the array:");

        for (int i = 0; i < n; i++) {

            arr[i] = scanner.nextInt();

        }

        System.out.println("Original array:");

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

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

        }

        System.out.println("\nReversed array:");

        for (int i = arr.length - 1; i >= 0; i--) {

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

        }

    }

}

1. **Write a program to find the average, sum, min and max of the N numbers Using user Input.**

import java.util.\*;

class P4{

    public static void main(String args[])

    {

    Scanner sc= new Scanner(System.in);

    int a=0,

    min=0,

    max=0,

    x;

    int n =args.length;

    System.out.println("1-sum");

    System.out.println("2-Average");

    System.out.println("3-Minimum");

    System.out.println("4-Maximum");

    System.out.println("Enter Ur Choice : ");

    int choice=sc.nextInt();

    for(int i=0;i<n;i++){

    a+=Integer.parseInt(args[i]);

    }

    switch(choice)

    {

    case 1 :System.out.println("The sum is : "+a);

    break;

    case 2 :System.out.println("The Average is : "+a/n);

    break;

    case 3 :for(int i=0;i<n-1;i++)

    {

        x=Integer.parseInt(args[i]);

        if(x<Integer.parseInt(args[i+1]))

        min=x;

        else

        min=Integer.parseInt(args[i+1]);

    }

    System.out.println("The minimum is : "+min);

    break;

    case 4 :

    for(int i=0;i<n-1;i++)

    {   x=Integer.parseInt(args[i]);

        if(x>Integer.parseInt(args[i+1]))

        max=x;

        else

        max=Integer.parseInt(args[i+1]);

    }

    System.out.println("The maximum is : "+max);

    break;

    }

    }

    }

1. **Write a program to Test the Prime num.**

import java.util.Scanner;

public class P5{

public static void main(String args[]){

Scanner sc = new Scanner(System.in);

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

int num = sc.nextInt();

if (num >1){

    for (int i=2; i<=num/2; ++i){

        if (num%i==0){

            System.out.println("The given number is not prime: "+num);

            break;

        }else{

            System.out.println("The given number is prime: "+num);

            break;

        }

    }

}

}

}

1. **Write a program to calculate the Simple Interest and Input by the user.**

import java.util.\*;

public class P6{

int p,t;

float si,r;

public P6(){

     r=0;

p=0;

}

public void getdata(){

Scanner sc =new Scanner(System.in);

System.out.println("Enter principle : ");

p=sc.nextInt();

System.out.println("Enter rate : ");

r=sc.nextFloat();

System.out.println("Enter time period : ");

t=sc.nextInt();

}

public void cal(){

si=(p\*r\*t)/100;

}

public void display(){

System.out.println("Principle : Rs"+p);

System.out.println("Rate : "+r);

System.out.println("Time period : "+t);

System.out.println("Simple Interest : Rs"+si);

}

public static void main(String args[]){

P6 s = new P6();

s.getdata();

s.cal();

s.display();

}

}

1. **Write a program to find Armstrong number**

public class P7

{

public static void main(String args[])

{

int n = 153;

int arg = n;

int sum = 0, r;

for (int i = 1; i < n; i++)

{

while (n > 0)

{

r = n % 10;

sum = sum + (r \* r \* r);

n = n / 10;

}

}

if (arg == sum)

{

    System.out.println("Given number is armstrong number: " + arg);

}

else

{

    System.out.println("Given number is not armstrong number: " + arg);

}

}}

1. **Write a program to Print Floyds triangle**

import java.util.Scanner;

class P8

{

public static void main(String args[])

{

Scanner scan = new Scanner(System.in);

System.out.println("Enter the number of rows: ");

int rows = scan.nextInt();

System.out.println("Floyd's Triangle Generated");

int count = 1;

for ( int i = 1 ; i <= rows ; i++ )

{

for ( int j = 1 ; j <= i ; j++ )

{

System.out.print(count+" ");

count++;

}

System.out.println();

}

}

}

1. **Write a program to find largest and smallest number in an array in java.**

public class P9

{

public static void main(String[] args)

{

int a[] = new int[] { 23, 34, 13, 64, 72, 90, 10, 15, 9, 27 };

int min = a[0];

int max = a[0];

for (int i = 1; i < a.length; i++)

{

if (a[i] > max)

{

max = a[i];

}

if (a[i] < min)

{

min = a[i];

}

}

System.out.println("Largest Number in a given array is : " + max);

System.out.println("Smallest Number in a given array is : " + min);

}

}

**Long (10 Marks)**

1. **Write a java program to display the system date and time in various formats shown below:**

* **Current date is : Friday July 31 2015 (3)**
* **Current time is : 16:25:56 (6)**
* **Current week of year is : 31 (7)**
* **Current week of month : 5 (8)**

**Note: Use java.util.Date and java.text.SimpleDateFormat class**

import java.util.Date;

import java.text.SimpleDateFormat;

class P1

{

    public static void main(String args[])

    {

        Date d = new Date();

        SimpleDateFormat sdf;

        sdf = new SimpleDateFormat("EEEE MMMM dd yyyy");

        System.out.println("1. Current date is : "+sdf.format(d));

        sdf = new SimpleDateFormat("HH:mm:ss");

        System.out.println("2. Current time is : "+sdf.format(d));

        sdf = new SimpleDateFormat("w");

        System.out.println("3. Current week of year is : "+sdf.format(d));

        sdf = new SimpleDateFormat("W");

        System.out.println("4. Current week of month : "+sdf.format(d));

    }

}

1. **Define a class MyNumber having one private int data member. Write a default constructor to initialize it to 0 and another constructor to initialize it to a value (Use this). Write methods isNegative, isPositive, isZero, isOdd, isEven. Create an object in main. Use command line arguments to pass a value to the object (Hint : convert string argument to integer) and perform the above tests.**

public class P22{

    private int n;

    P22(){

        n=0;

    }

    P22(int n){

        this.n = n;

    }

    void isNegative(){

        if (n<0)

            System.out.println(n+" is Negative Number.");

    }

    void isPositive(){

        if (n>0)

            System.out.println(n+" is Positive Number.");

    }

    void isZero(){

        if (n==0)

            System.out.println(n+" is Zero.");

    }

    void isOdd(){

        if (n%2!=0)

            System.out.println(n+" is Odd Number.");

    }

    void isEven(){

        if (n%2==0)

            System.out.println(n+" is Even Number.");

    }

}

class P2{

    public static void main(String args[]){

        int a = Integer.parseInt(args[0]);

        P22 obj2 = new P22(a);

        obj2.isNegative();

        obj2.isPositive();

        obj2.isZero();

        obj2.isOdd();

        obj2.isEven();

    }

}

1. **Define a Student class (roll number, name, percentage). Define a default and parameterized constructor. Keep a count of objects created. Create objects using parameterized Constructor and display the object count after each object is created. (Use static member and method.create n objects of the Student class. Accept details from the user for each object. ). Also display the contents of each object .**

class P33

{

int roll;

String name;

double per;

static int count;

P33(){

        roll=0;

        name=null;

        per=0;

        count++;

        System.out.println("Roll No.="+roll+"  Name = "+name+"  Per = "+per);

}

P33(int roll,String name, double per){

this.roll=roll;

this.name=name;

this.per=per;

count++;

System.out.println("Roll No.="+roll+"  Name = "+name+"  Per = "+per);

}

static void display(){

System.out.println("\t Object Created Count = "+count);

}

}

class P3{

    public static void main(String args[]){

    new P33();

    P33.display();

    new P33(101,"Rahul",67.89);

    P33.display();

    new P33();

    P33.display();

    }

    }

1. **Create a package named Series having three different classes to print series:**

**a. Prime numbers b. Fibonacci series c. Squares of numbers**

**Write a program to generate ‘n’ terms of the above series.**

1. *Square*

package P4;

public class Square{

    public void display(int n) {

        int sqr;

        sqr=n\*n;

        System.out.println("Square of given number is: "+sqr);

    }

}

1. *Fibonacci series*

package P4.P4\_1;

public class Fibonacci {

    public void abc(int n){

        int n1 = 0;

        int n2 = 1;

        int num = n;

        int count = 0;

        if (num==1){

            System.out.println("Fibonacci series upto: "+num);

        }else{

            System.out.println("Fibonacci series: "+num);

            while (count<num){

                System.out.println(n1);

                int nth = n1 + n2;

                n1 = n2;

                n2 = nth;

                count = count+1;

            }

        }

}

}

1. *Prime number*

package P4.P4\_1.P4\_2;

public class Prime {

    public void display(int num){

        if (num>1){

            for (int i=2; i<=num/2; ++i){

                if (num%i==0){

                    System.out.println("The given number is not prime: "+num);

                    break;

                }else{

                    System.out.println("The given number is prime: "+num);

                    break;

                }

            }

        }

    }

}

import java.io.\*;

import P4.\*;

import P4.P4\_1.\*;

import P4.P4\_1.P4\_2.\*;

class P4

{

public static void main(String args[]) throws Exception

{

int n;

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

System.out.print("Enter Number = ");

n = Integer.parseInt(br.readLine());

Square obj3 = new Square();

obj3.display(n);

Prime obj1 = new Prime();

obj1.display(n);

Fibonacci obj2 = new Fibonacci();

obj2.abc(n);

br.close();

}

}

1. **Program to count each words and total number of words in given string. Accept the values from the user.**

import java.io.IOException;

public class P5{

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

countWords("apple banna apple fruit fruit apple hello hi hi hello hi");

}

static void countWords(String st){

String[] words = st.split("\\s");

int[] fr = new int[words.length];

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

fr[i] = 0;

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

for (int j = 0; j < words.length; j++){

if (words[i].equals(words[j])){

fr[i]++;

}

}

}

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

for (int j = 0; j < words.length; j++){

if (words[i].equals(words[j])){

if (i != j){

words[i] = "";

}

}

}

}

int total = 0;

System.out.println("Words and words count:");

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

if (words[i] != ""){

System.out.println(words[i] + "=" + fr[i]);

total += fr[i];

}

}

System.out.println("Total words counted: " + total);

}

}

1. **Define a class Employee having private members – id, name, department, salary. Define default and parameterized constructors. Create a subclass called “Manager” with private member bonus. Define methods accept and display in both the classes. Create n objects of the Manager class and display the details of the manager having the maximum total salary (salary+bonus)**

import java.util.Scanner;

class Employee {

    private int id;

    private String name;

    private String department;

    private double salary;

    public Employee() {

        this.id = 0;

        this.name = "";

        this.department = "";

        this.salary = 0.0;

    }

    public Employee(int id, String name, String department, double salary) {

        this.id = id;

        this.name = name;

        this.department = department;

        this.salary = salary;

    }

    public void accept() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter id: ");

        this.id = sc.nextInt();

        System.out.println("Enter name: ");

        this.name = sc.next();

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

        this.department = sc.next();

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

        this.salary = sc.nextDouble();

    }

    public void display() {

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

        System.out.println("Name: " + this.name);

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

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

    }

    public double getSalary() {

        return this.salary;

    }

}

class Manager extends Employee {

    private double bonus;

    public Manager() {

        super();

        this.bonus = 0.0;

    }

    public Manager(int id, String name, String department, double salary, double bonus) {

        super(id, name, department, salary);

        this.bonus = bonus;

    }

    @Override

    public void accept() {

        super.accept();

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter bonus: ");

        this.bonus = sc.nextDouble();

    }

    @Override

    public void display() {

        super.display();

        System.out.println("Bonus: " + this.bonus);

    }

    public double getTotalSalary() {

        return this.getSalary() + this.bonus;

    }

}

public class P6 {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the number of managers: ");

        int n = sc.nextInt();

        Manager[] managers = new Manager[n];

        for (int i = 0; i < n; i++) {

            managers[i] = new Manager();

            managers[i].accept();

        }

        Manager maxSalaryManager = managers[0];

        for (int i = 1; i < n; i++) {

            if (managers[i].getTotalSalary() > maxSalaryManager.getTotalSalary()) {

                maxSalaryManager = managers[i];

            }

        }

        System.out.println("Manager with maximum total salary: ");

        maxSalaryManager.display();

    }

}

1. **Create an abstract class Shape with methods calc\_area and calc\_volume. Derive three classes Sphere(radius) , Cone(radius, height) and Cylinder(radius, height), Box(length, breadth, height) from it. Calculate area and volume of all. (Use Method overriding).**

abstract class Shape {

    abstract double calc\_area();

    abstract double calc\_volume();

}

class Sphere extends Shape {

    private double radius;

    public Sphere(double radius) {

        this.radius = radius;

    }

    @Override

    double calc\_area() {

        return 4 \* Math.PI \* Math.pow(radius, 2);

    }

    @Override

    double calc\_volume() {

        return (4.0 / 3.0) \* Math.PI \* Math.pow(radius, 3);

    }

}

class Cone extends Shape {

    private double radius;

    private double height;

    public Cone(double radius, double height) {

        this.radius = radius;

        this.height = height;

    }

    @Override

    double calc\_area() {

        return Math.PI \* radius \* (radius + Math.sqrt(Math.pow(height, 2) + Math.pow(radius, 2)));

    }

    @Override

    double calc\_volume() {

        return (1.0 / 3.0) \* Math.PI \* Math.pow(radius, 2) \* height;

    }

}

class Cylinder extends Shape {

    private double radius;

    private double height;

    public Cylinder(double radius, double height) {

        this.radius = radius;

        this.height = height;

    }

    @Override

    double calc\_area() {

        return 2 \* Math.PI \* radius \* (radius + height);

    }

    @Override

    double calc\_volume() {

        return Math.PI \* Math.pow(radius, 2) \* height;

    }

}

class Box extends Shape {

    private double length;

    private double breadth;

    private double height;

    public Box(double length, double breadth, double height) {

        this.length = length;

        this.breadth = breadth;

        this.height = height;

    }

    @Override

    double calc\_area() {

        return 2 \* (length \* breadth + breadth \* height + length \* height);

    }

    @Override

    double calc\_volume() {

        return length \* breadth \* height;

    }

}

public class P7 {

    public static void main(String[] args) {

        Sphere sphere = new Sphere(5.0);

        Cone cone = new Cone(3.0, 4.0);

        Cylinder cylinder = new Cylinder(2.0, 6.0);

        Box box = new Box(2.0, 3.0, 4.0);

        System.out.println("Sphere:");

        System.out.println("Area: " + sphere.calc\_area());

        System.out.println("Volume: " + sphere.calc\_volume());

        System.out.println("\nCone:");

        System.out.println("Area: " + cone.calc\_area());

        System.out.println("Volume: " + cone.calc\_volume());

        System.out.println("\nCylinder:");

        System.out.println("Area: " + cylinder.calc\_area());

        System.out.println("Volume: " + cylinder.calc\_volume());

        System.out.println("\nBox:");

        System.out.println("Area: " + box.calc\_area());

        System.out.println("Volume: " + box.calc\_volume());

    }

}

1. **Write a Java program to create a super class Vehicle having members Company and price. Derive 2 different classes LightMotorVehicle (members – mileage) and HeavyMotorVehicle (members – capacity-in-tons). Accept the information for n vehicles and display the information in appropriate form. While taking data, ask the user about the type of vehicle first.**

import java.util.Scanner;

abstract class Vehicle {

    String company;

    double price;

    public Vehicle(String company, double price) {

        this.company = company;

        this.price = price;

    }

    abstract void accept();

    abstract void display();

}

class LightMotorVehicle extends Vehicle {

    double mileage;

    public LightMotorVehicle(String company, double price, double mileage) {

        super(company, price);

        this.mileage = mileage;

    }

    @Override

    void accept() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter company: ");

        this.company = sc.next();

        System.out.println("Enter price: ");

        this.price = sc.nextDouble();

        System.out.println("Enter mileage: ");

        this.mileage = sc.nextDouble();

    }

    @Override

    void display() {

        System.out.println("Company: " + this.company);

        System.out.println("Price: " + this.price);

        System.out.println("Mileage: " + this.mileage);

    }

}

class HeavyMotorVehicle extends Vehicle {

    double capacityInTons;

    public HeavyMotorVehicle(String company, double price, double capacityInTons) {

        super(company, price);

        this.capacityInTons = capacityInTons;

    }

    @Override

    void accept() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter company: ");

        this.company = sc.next();

        System.out.println("Enter price: ");

        this.price = sc.nextDouble();

        System.out.println("Enter capacity in tons: ");

        this.capacityInTons = sc.nextDouble();

    }

    @Override

    void display() {

        System.out.println("Company: " + this.company);

        System.out.println("Price: " + this.price);

        System.out.println("Capacity in tons: " + this.capacityInTons);

    }

}

public class P8 {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the number of vehicles: ");

        int n = sc.nextInt();

        Vehicle[] vehicles = new Vehicle[n];

        for (int i = 0; i < n; i++) {

            System.out.println("Enter the type of vehicle (1 for Light Motor Vehicle, 2 for Heavy Motor Vehicle): ");

            int type = sc.nextInt();

            if (type == 1) {

                System.out.println("Enter mileage: ");

                double mileage = sc.nextDouble();

                vehicles[i] = new LightMotorVehicle("", 0, mileage);

            } else {

                System.out.println("Enter capacity in tons: ");

                double capacityInTons = sc.nextDouble();

                vehicles[i] = new HeavyMotorVehicle("", 0, capacityInTons);

            }

            vehicles[i].accept();

        }

        System.out.println("\nDetails of the vehicles: ");

        for (int i = 0; i < n; i++) {

            vehicles[i].display();

        }

    }

}

1. **Define an abstract class “Staff” with members name and address. Define two sub-classes of this class – “FullTimeStaff” (department, salary) and “PartTimeStaff” (number-of-hours, rate-per- hour). Define appropriate constructors. Create n objects which could be of either FullTimeStaff or PartTimeStaff class by asking the user’s choice. Display details of all “FullTimeStaff” objects and all “PartTimeStaff” objects.**

import java.util.Scanner;

// Abstract class Staff

abstract class Staff {

    protected String name;

    protected String address;

    // Constructor

    public Staff(String name, String address) {

        this.name = name;

        this.address = address;

    }

    // Abstract method to display details

    public abstract void displayDetails();

}

// FullTimeStaff subclass

class FullTimeStaff extends Staff {

    private String department;

    private double salary;

    // Constructor

    public FullTimeStaff(String name, String address, String department, double salary) {

        super(name, address);

        this.department = department;

        this.salary = salary;

    }

    // Display details of FullTimeStaff

    public void displayDetails() {

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

        System.out.println("Address: " + address);

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

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

    }

}

// PartTimeStaff subclass

class PartTimeStaff extends Staff {

    private int numberOfHours;

    private double ratePerHour;

    // Constructor

    public PartTimeStaff(String name, String address, int numberOfHours, double ratePerHour) {

        super(name, address);

        this.numberOfHours = numberOfHours;

        this.ratePerHour = ratePerHour;

    }

    // Display details of PartTimeStaff

    public void displayDetails() {

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

        System.out.println("Address: " + address);

        System.out.println("Number of Hours: " + numberOfHours);

        System.out.println("Rate per Hour: " + ratePerHour);

    }

}

public class P9 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter the number of staff:");

        int n = scanner.nextInt();

        scanner.nextLine(); // Consume newline character

        Staff[] staffArray = new Staff[n];

        // Accept details for each staff

        for (int i = 0; i < n; i++) {

            System.out.println("Enter details for Staff " + (i + 1) + ":");

            System.out.println("1. Full-Time Staff");

            System.out.println("2. Part-Time Staff");

            System.out.println("Enter your choice:");

            int choice = scanner.nextInt();

            scanner.nextLine(); // Consume newline character

            switch (choice) {

                case 1:

                    System.out.println("Enter name:");

                    String nameFT = scanner.nextLine();

                    System.out.println("Enter address:");

                    String addressFT = scanner.nextLine();

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

                    String department = scanner.nextLine();

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

                    double salary = scanner.nextDouble();

                    staffArray[i] = new FullTimeStaff(nameFT, addressFT, department, salary);

                    break;

                case 2:

                    System.out.println("Enter name:");

                    String namePT = scanner.nextLine();

                    System.out.println("Enter address:");

                    String addressPT = scanner.nextLine();

                    System.out.println("Enter number of hours:");

                    int numberOfHours = scanner.nextInt();

                    System.out.println("Enter rate per hour:");

                    double ratePerHour = scanner.nextDouble();

                    staffArray[i] = new PartTimeStaff(namePT, addressPT, numberOfHours, ratePerHour);

                    break;

                default:

                    System.out.println("Invalid choice.");

            }

        }

        // Display details of all staff

        System.out.println("\nFull-Time Staff Details:");

        for (Staff staff : staffArray) {

            if (staff instanceof FullTimeStaff) {

                staff.displayDetails();

                System.out.println();

            }

        }

        System.out.println("\nPart-Time Staff Details:");

        for (Staff staff : staffArray) {

            if (staff instanceof PartTimeStaff) {

                staff.displayDetails();

                System.out.println();

            }

        }

    }

}

1. **Write a program that prints the sum of each row and column in a 2D array in java. Accept the values from the user.**

import java.util.Scanner;

public class P10 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of rows and columns in the 2D array: ");

        int numRows = scanner.nextInt();

        int numCols = scanner.nextInt();

        int[][] array = new int[numRows][numCols];

        System.out.println("Enter the values for the 2D array:");

        for (int i = 0; i < numRows; i++) {

            for (int j = 0; j < numCols; j++) {

                array[i][j] = scanner.nextInt();

            }

        }

        System.out.println("Sum of each row:");

        for (int i = 0; i < numRows; i++) {

            int rowSum = 0;

            for (int j = 0; j < numCols; j++) {

                rowSum += array[i][j];

            }

            System.out.println("Row " + (i + 1) + ": " + rowSum);

        }

        System.out.println("Sum of each column:");

        for (int j = 0; j < numCols; j++) {

            int colSum = 0;

            for (int i = 0; i < numRows; i++) {

                colSum += array[i][j];

            }

            System.out.println("Column " + (j + 1) + ": " + colSum);

        }

    }

}

1. **Write a program multiplication of two 3X3 matrices. Accept the values from the user.**

import java.util.Scanner;

public class P11 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the values for the first 3x3 matrix:");

        int[][] matrix1 = new int[3][3];

        for (int i = 0; i < 3; i++) {

            for (int j = 0; j < 3; j++) {

                matrix1[i][j] = scanner.nextInt();

            }

        }

        System.out.print("Enter the values for the second 3x3 matrix:");

        int[][] matrix2 = new int[3][3];

        for (int i = 0; i < 3; i++) {

            for (int j = 0; j < 3; j++) {

                matrix2[i][j] = scanner.nextInt();

            }

        }

        int[][] result = new int[3][3];

        for (int i = 0; i < 3; i++) {

            for (int j = 0; j < 3; j++) {

                for (int k = 0; k < 3; k++) {

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

                }

            }

        }

        System.out.println("The product of the two matrices is:");

        for (int i = 0; i < 3; i++) {

            for (int j = 0; j < 3; j++) {

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

            }

            System.out.println();

        }

    }

}