**1.write a program to read student name,reg.no,marks[5] and calculate total,percentage,resut.**

**Display all the details of students.**

import java.util.\*;

import java.util.Scanner;

public class Main

{

public static void main(String[] args)

{

int n, total = 0, percentage,regno;

String studentname;

System.out.println("enter your name:");

Scanner sc=new Scanner(System.in);

studentname=sc.nextLine();

System.out.println("enter your regno:");

Scanner oc=new Scanner(System.in);

regno=oc.nextInt();

Scanner s = new Scanner(System.in);

System.out.print("Enter no. of subject:");

n = s.nextInt();

int marks[] = new int[n];

System.out.println("Enter marks out of 100:");

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

{

marks[i] = s.nextInt();

total = total + marks[i];

}

percentage = total / n;

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

System.out.println("registerno:"+regno);

System.out.println("toal:"+total);

System.out.println("Percentage:"+percentage);

if (percentage>=35)

System.out.println("Result:pass");

else

System.out.println("Result:Fail");

}

}

**Output:**

Enter your name: aditya

Enter your regno:123

Enter no.of subjects:5

98

87

76

89

88

Name:aditya

Registerno:123

Total=438

Percentage:87

Result :pass

**2.Wrie a program to perform the following string operations**

**a.read a string**

**b.find out wheather there is a given substring or not**

**c.compare existing string by another string and display status**

**d.replace existing string character with another character**

**e.count number of works in a string**

(**a).Read a String**

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

System.out.println("1.Read a String:");

System.out.print("Enter your String :");

Scanner kc=new Scanner(System.in);

String x1;

x1=kc.nextLine();

System.out.println("entered string is:"+x1);

}

}

**Output:**

1.Read a String

Enter your String:aditya

Entered string is:aditya

**(b).find out wheather there is a given substring or not**

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

System.out.println("2.substring or not:");

Scanner rc=new Scanner(System.in);

String s1,s2;

System.out.print("Enter first string:");

s1=rc.next();

System.out.print("Enter sub string:");

s2=rc.next();

if(s1.contains(s2))

System.out.print("yes");

else

System.out.print("no");

}

}

**Output:**

2.substring or not

Enter first string:aditya

Enter sub string:adi

Yes

**(c).compare existing string by another string and display status**

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

System.out.println("3.Compare Existing String by another string:");

Scanner cc=new Scanner(System.in);

String c1,c2;

System.out.print("enter first string:");

c1=cc.next();

System.out.print("enter second string:");

c2=cc.next();

if(c1.compareTo(c2)>0)

System.out.print("positive");

else if(c1.compareTo(c2)==0)

System.out.print("Both are same");

else

System.out.print("Negative");

}

}

**Output:**

**3.compare Existing String by another string:**

Enter first string:aditya

Enter second string:aditya

Both are same

**(d).replace existing string character with another character**

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

System.out.println("4.replace existing string character with another character");

Scanner oc=new Scanner(System.in);

String m1,m2;

System.out.print("Enter first string:");

m1=oc.nextLine();

m2=m1.replace('a','z');

System.out.print(m2);

}

}

**Output:**

4.replace existing string character with another character

Enter first string:aditya

zdityz

**(e).count number of works in a string**

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

System.out.println("5.count no of words in a string:");

Scanner pc=new Scanner(System.in);

String y1;

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

y1=pc.nextLine();

int n=y1.length();

System.out.print(n);

}

}

Output:

5.count no of words in a string:

Enter String:college

7

**3.java progarm to implements addition and multiplication of two n\*n matrices**

import java.util.Scanner;

import java.util.\*;

class Main

{

public static void main(String args[])

{

int row, col,i,j;

Scanner in = new Scanner(System.in);

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

row = in.nextInt();

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

col = in.nextInt();

int mat1[][] = new int[row][col];

int mat2[][] = new int[row][col];

int res[][] = new int[row][col];

System.out.println("Enter the elements of matrix1:");

for ( i= 0 ; i < row ; i++ )

{

for ( j= 0 ; j < col ;j++ )

mat1[i][j] = in.nextInt();

System.out.println();

}

System.out.println("Enter the elements of matrix2:");

for ( i= 0 ; i < row ; i++ )

{

for ( j= 0 ; j < col ;j++ )

mat2[i][j] = in.nextInt();

System.out.println();

}

for ( i= 0 ; i < row ; i++ )

for ( j= 0 ; j < col ;j++ )

{

res[i][j] = 0;

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

res[i][j]+=mat1[i][k]\*mat2[k][j];

}

System.out.println("Multiplication of matrices:-");

for ( i= 0 ; i < row ; i++ )

{

for ( j= 0 ; j < col ;j++ )

System.out.print(res[i][j]+"\t");

System.out.println();

}

for ( i= 0 ; i < row ; i++ )

for ( j= 0 ; j < col ;j++ )

res[i][j] = mat1[i][j] + mat2[i][j];

System.out.println("addtion of matrices:-");

for ( i= 0 ; i < row ; i++ )

{

for ( j= 0 ; j < col ;j++ )

System.out.print(res[i][j]+"\t");

System.out.println();

}

}

}

**Output:**

Enter the number of rows:

2

Enter the number of columns:

2

Enter the elements of matrix1:

1

2

3

4

Enter the elements of matrix 2:

1

3

4

5

Multiplication of matrices:-

9 13

19 29

Addition of matrices:-

2 5

7 9

**4.java program to demostrate the use of constructor**

class Main

{

private String clgname = "aditya";

private String place = "kakinada";

private String clgcode = "00112";

private int phno = 240055;

public static void main(String[] args)

{

Main myObj = new Main();

System.out.println("Name: " + myObj.clgname + " " + myObj.place);

System.out.println("Email: " + myObj.clgcode);

System.out.println("Age: " + myObj.phno);

}

}

**Output:**

Name :aditya Kakinada

Email:00112

Age:240055

**5.calculate the following shapes using method overloading**

**a.triangle b.rectangle c.circle d.square**

import java.util.Scanner;

import java.io.\*;

class area

{

void findarea(int a, int b)

{

System.out.println( "\n Area of rectangle with breadth "+a+" and lenght " +b+ " is :" + a\*b);

}

void findarea(int a)

{

System.out.println( "\n Area of circle with radius " +a+ " is :" + 3.14 \* a);

}

void findarea(float a)

{

System.out.println("\n the area of the square is "+Math.pow(a, 2)+" sq units");

}

void findarea(int a, int b, int c)

{

double temp = (a + b + c);

double s= temp/2;

double triarea = Math.sqrt(s\*(s-a)\*(s-b)\*(s-c));

System.out.println( "\n Area of triangle with lenght of sides "+a+"," +b+ " and " +c+" is : "+ triarea);

}

public static void main(String args[])

{

int choice;

System.out.print("\n Find area of \n 1 . Rectangle \n 2 . Triangle \n 3 . Circle \n 4 . Square \n\n ");

System.out.println("\*\*\*enter your choice here\*\*\*:");

Scanner cc=new Scanner(System.in);

area d = new area();

choice=cc.nextInt();

switch(choice)

{

case 1:

System.out.print("\n Enter the breadth : ");

Scanner ac=new Scanner(System.in);

int a=ac.nextInt();

System.out.print("\n Enter the lenght : ");

int b=ac.nextInt();

d.findarea(a,b);

break;

case 2:

System.out.print("\n Enter the lenght of first side : ");

Scanner fs=new Scanner(System.in);

int x=fs.nextInt();

System.out.print("\n Enter the lenght of second side : ");

int y=fs.nextInt();

System.out.print("\n Enter the lenght of third side : ");

int z=fs.nextInt();

d.findarea(x,y,z);

break;

case 3:

System.out.println("enter the radius:");

Scanner sc=new Scanner(System.in);

int r=sc.nextInt();

d.findarea(r);

break;

case 4:

System.out.print("\n Enter the number:");

Scanner tc=new Scanner(System.in);

float s=tc.nextInt();

d.findarea(s);

break;

default:

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

}

}

}

**Output:**

Find area of

1 . Rectangle

2 . Triangle

3 . Circle

4 . Square

\*\*\*enter your choice here\*\*\*:

1

Enter the breadth : 4

Enter the lenght : 3

Area of rectangle with breadth 4 and lenght 3 is :12

\*\*\*enter your choice here\*\*\*:

2

Enter the lenght of first side : 10

Enter the lenght of second side : 30

Enter the lenght of third side : 25

Area of triangle with lenght of sides 10,30 and 25 is : 117.09371246996997

\*\*\*enter your choice here\*\*\*:

3

enter the radius:

5

Area of circle with radius 5 is :15.700000000000001

\*\*\*enter your choice here\*\*\*:

4

Enter the number:5

the area of the square is 25.0 sq units

**6. Implement inheritance between Person (Aadhar, Surname, Name, DOB, and Age)**

**and Student (Admission Number, College, Course, Year)classes**

**where ReadData(),DisplayData()are overriding methods.**

class Person

{

private String name;

private long phno;

public void read()

{

name = "Akash";

phno = 928374993;

}

public void show()

{

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

System.out.println("Phone = " + phno);

}

}

class Student extends Person

{

private int rollno;

private String course;

public void read()

{

super.read();

rollno = 007;

course = "Computer Science";

}

public void show()

{

super.show();

System.out.println("Roll No. = " + rollno);

System.out.println("Course = " + course);

}

}

class Hierarchical

{

public static void main(String args[])

{

Student s1 = new Student();

s1.read();

System.out.println("\*\*\*\*\*\*\* Displaying Student Information \*\*\*\*\*\*\*");

s1.show();

}

}

**Output:**

\*\*\*\*\*\*\* Displaying Student Information \*\*\*\*\*\*\*

Name = Akash

Phone = 928374993

Roll No. = 7

Course = Computer Science

**7. Java program for implementing Interfaces**

interface Fly

{

void goForward();

void goDown();

}

class Duck implements Fly

{

public void goForward()

{

System.out.println("Duck going forward");

}

public void goDown()

{

System.out.println("Duck goind Down");

}

}

class Finch implements Fly

{

public void goForward()

{

System.out.println("Finch is going Forward");

}

public void goDown()

{

System.out.println("Finch is goind Down");

}

}

public class Main

{

public static void main(String args[])

{

Duck d=new Duck();

d.goForward();

d.goDown();

Finch f=new Finch();

f.goForward();

f.goDown();

}

}

**Output:**

Duck going forward

Duck going Down

Finch is going Forward

Finch is going Down

**8. Java program on Multiple Inheritance.**

interface Event {

public void start();

}

interface Sports {

public void play();

}

interface Hockey extends Sports, Event{

public void show();

}

public class Main{

public static void main(String[] args){

Hockey hockey = new Hockey() {

public void start() {

System.out.println("Start Event");

}

public void play() {

System.out.println("Play Sports.");

}

public void show() {

System.out.println("Show Hockey.");

}

};

hockey.start();

hockey.play();

hockey.show();

}

}

**Output:**

Start Event

Play Sports.

Show Hockey.

**9. Java program for to display Serial Number from 1 to N by creating two Threads**

import java.lang.Math.\*;

class A extends Thread

{

public void run()

{

for(int i=1;i<=10;i++)

{

System.out.println("Thread-A:"+i);

}

}

}

class B extends Thread

{

public void run()

{

for(int j=1;j<=10;j++)

{

System.out.println("Thread-B:"+j);

}

}

}

class Main

{

public static void main(String args[])

{

A aa=new A();

B bb=new B();

aa.start();

bb.start();

}

}

**Output:**

Thread-A:1

Thread-A:2

Thread-B:1

Thread-A:3

Thread-B:2

Thread-A:4

Thread-B:3

Thread-A:5

Thread-B:4

Thread-B:5

Thread-A:6

Thread-A:7

Thread-B:6

Thread-A:8

Thread-B:7

Thread-B:8

Thread-A:9

Thread-B:9

Thread-A:10

Thread-B:10

**10. Java program to demonstrate the following exception handlings**

**e. Divided by Zero**

**f. Array Index Out of Bound**

**g. File Not Found**

**h. Arithmetic Exception**

**i. User Defined Exception**

**e. Divided by Zero**

import java.io.\*;

class Main{

public static void main(String[] args)

{

int a = 6;

int b = 0;

System.out.print(a / b);

// this line Throw ArithmeticException: / by zero

}

}

**Output:**

Exception in thread "main" java.lang.ArithmeticException: / by zero

at DividedbyZeroprogram.main(DividedbyZeroprogram.java:7)

**f. Array Index Out of Bound**

class ArrayExceptionprogram

{

public static void main(String args[])

{

int ar[]={1,2,3,4};

try

{

System.out.print(ar[5]);

}

catch(ArrayIndexOutOfBoundsException e)

{

System.out.println("you can call the out of bound index locations");

}

}

}

**Output:**

you can call the out of bound index locations

**g. File Not Found**

import java.io.\*;

class Filenotfoundprogram

{

public static void main(String args[])

{

FileReader fr;

try

{

fr=new FileReader("aditya.txt");

System.out.println("file is processing");

}

catch(FileNotFoundException e)

{

System.out.println("file is not there with that name");

}

}

}

**Output:**

file is not there with that name

**h. Arithmetic Exception**

public class Main {

public static void main(String[] args) {

int a = 0, b = 10;

int c = b/a;

System.out.println("Value of c is : "+ c);

}

}

**Output:**

Exception in thread "main" java.lang.ArithmeticException: / by zero

at Main.main(Main.java:4)

**I. User Defined Exception**

// A Class that represents use-defined exception

class MyException extends Exception {

public MyException(String s)

{

// Call constructor of parent Exception

super(s);

}

}

// A Class that uses above MyException

public class Main {

// Driver Program

public static void main(String args[])

{

try {

// Throw an object of user defined exception

throw new MyException("aditya degree college");

}

catch (MyException ex) {

System.out.println("kakinada");

// Print the message from MyException object

System.out.println(ex.getMessage());

}

}

}

**Output:**

kakinada

aditya degree college

**11. Create an Applet to display different shapes such as Circle, Oval, Rectangle, Square and Triangle.**

import java.applet.\*;

import java.awt.\*;

public class Shapes extends Applet

{

public void init()

{

setBackground(Color.white);

}

public void paint(Graphics g)

{

//Draw a square

g.setColor(Color,black);

g.drawString("Square",75,200);

int x[]={50,150,150,50};

int y[]={50,50,150,150};

g.drawPolygon(x,y,4);

//Draw a circle

g.setColor(Color,black);

g.drawString("Circle",400,200);

g.drawOval(350,50,125,125);

g.setColor(Color.red);

g.fillOval(350,50,125,125);

//Draw an oval

g.setColor(Color.black);

g.drawString("Oval",100,380);

g.drawOval(50,250,150,100);

g.setColor(Color.blue);

g.fillOval(50,250,150,100);

//Draw a rectangle

g.setColor(Color.black);

g.drawString("Rectangle",300,380);

x=new int[]{250,450,450,250};

y=new int[]{250,250,350,350};

g.drawPolygon(Color.cyan);

g.fillPolygon(x,y,4);

//Draw triangle

g.setColor(Color.black);

g.drawString("Triangle",100,525);

x=new int[]{50,50,200};

y=new int[]{500,400,500};

g.drawPolygon(x,y,3);

g.setColor(Color,green);

g.fillPolygon(x,y,3);

}

}

<html>

<applet code="Adapplet.class"

height="500" width="500">

</applet>

</html>

**12. Write a program to create Book (ISBN,Title, Author, Price, Pages, Publisher)**

**structure and store book details in a file and perform the following operations**

**j. Add book details**

**k. Search a book details for a given ISBN and display book details, if available**

**l. Update a book details using ISBN**

**m. Delete book details for a given ISBN and display list of remaining Book**