BASIC PROGRAM’S

1. **Check whether a character is present in a given string or not.**

**PROGRAM**

import java.util.Scanner;

public class charpresent {

public static void main(String[] args)

{

Scanner scanner= new Scanner(System.in);

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

String str=scanner.nextLine();

System.out.print("Enter The Character To Search:-");

char ch=scanner.nextLine().charAt(0);

int flag=0;

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

{

if(ch==str.charAt(i))

{

flag=1;

break;

}

}

if(flag==1)

{

System.out.println("The Character Is Present In The String");

}

else

{

System.out.println("The Character Is Not Present In The String");

}

}

}

1. **Matrix Multiplication**

**PROGRAM**

import java.util.Scanner;

public class matrixmultiplication {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

int r1,c1,r2,c2;

System.out.print("Enter The Number Of Rows For First Matrix:-");

r1=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Number Of Columns For First Matrix:-");

c1=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Number Of Rows For Second Matrix:-");

r2=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Number Of Columns For Second Matrix:-");

c2=scanner.nextInt();

scanner.nextLine();

int[][] mat1=new int[r1][c1];

System.out.println("Enter The Elements For First Matrix");

for(int i=0;i<r1;i++)

{

for(int j=0;j<c1;j++)

{

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

scanner.nextLine();

}

}

int[][] mat2=new int[r2][c2];

System.out.println("Enter The Elements For Second Matrix");

for(int i=0;i<r2;i++)

{

for(int j=0;j<c2;j++)

{

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

scanner.nextLine();

}

}

int[][] mat3=new int[r1][c2];

if(c1==r2)

{

for(int i=0;i<r1;i++)

{

for(int j=0;j<c2;j++)

{

int sum=0;

for(int k=0;k<c1;k++)

{

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

}

mat3[i][j]=sum;

}

}

}

else

{

System.out.println("Matrix Multiplication Is nOt Possible");

}

System.out.println("MAtrix 1");

for(int i=0;i<r1;i++)

{

for(int j=0;j<c2;j++)

{

System.out.print(mat1[i][j]+" ");

}

System.out.println();

}

System.out.println("MAtrix 2");

for(int i=0;i<r1;i++)

{

for(int j=0;j<c2;j++)

{

System.out.print(mat2[i][j]+" ");

}

System.out.println();

}

System.out.println("MAtrix Multiplication");

for(int i=0;i<r1;i++)

{

for(int j=0;j<c2;j++)

{

System.out.print(mat3[i][j]+" ");

}

System.out.println();

}

}

}

1. **Matrix Addition**

**PROGRAM**

import java.util.Scanner;

public class matrixaddition {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

System.out.print("Enter The Array1 Size:-");

int n=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Array2 Size:-");

int m=scanner.nextInt();

int[][] arr1=new int[n][m];

int[][] arr2=new int[n][m];

System.out.println("Enter The Elements For First Matrix");

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

{

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

{

arr1[i][j]=scanner.nextInt();

scanner.nextLine();

}

}

System.out.println("Enter The Elements For Second Matrix");

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

{

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

{

arr2[i][j]=scanner.nextInt();

scanner.nextLine();

}

}

int[][] arr3=new int[n][m];

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

{

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

{

arr3[i][j]=arr1[i][j]+arr2[i][j];

}

}

System.out.println("First Matrix");

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

{

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

{

System.err.print(arr1[i][j]);

System.err.print(" ");

}

System.out.println();

}

System.out.println("Second Matrix");

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

{

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

{

System.err.print(arr2[i][j]);

System.err.print(" ");

}

System.out.println();

}

System.out.println("Matrix Addition");

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

{

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

{

System.err.print(arr3[i][j]);

System.err.print(" ");

}

System.out.println();

}

}

}

1. **LCM and GCD**

**PROGRAM**

import java.util.Scanner;

public class lcmgcd {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

int minimum,greatest=0,least;

System.out.print("Enter The First Number:-");

int num1=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Second Number:-");

int num2=scanner.nextInt();

if (num1<num2)

{

minimum=num1;

}

else

{

minimum=num2;

}

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

{

if (num1%i==0 && num2%i==0)

{

greatest=i;

}

}

least=(num1\*num2)/greatest;

System.out.println(least);

System.out.print(greatest);

}

}

1. **Method overloading simple program.**

**PROGRAM**

public class methodoverloading

{

public void Animals(int e,int l)

{

System.out.println("Animals Have:-"+e+" Eyes");

System.out.println("Animals Have:-"+l+" Legs");

}

public void Animals(String live)

{

System.out.println("Animals Lives In:-"+live);

}

public static void main(String[] args)

{

methodoverloading aml=new methodoverloading();

aml.Animals(2,2);

aml.Animals("Forest");

}

}

1. **Method overriding simple program.**

**PROGRAM**

public class methodoverriding {

static void hello()

{

System.out.println("hello World");

}

static class Animal {

public void play() {

System.out.println("The Animals Are Playing");

}

}

static class Dog extends Animal {

public void play() {

System.out.println("The Dogs Are Playing");

super.play();

}

}

public static void main(String[] args) {

Dog d1 = new Dog();

d1.play();

hello();

}

}

1. **Polymorphism simple program.**

**PROGRAM**

import java.util.Scanner;

public class polymorphism1

{

static class Shape

{

Scanner scanner=new Scanner(System.in);

public void calculatearea()

{

System.out.println("Calculating Area For All 3 Shapes..");

}

}

static class Circle extends Shape

{

public void calculatearea()

{

System.out.print("Enter The Radius:-");

int radius=scanner.nextInt();

scanner.nextLine();

float pi=3.141f;

float area=pi\*radius\*radius;

System.out.println("The Area Of The Circle Is:-"+area);

}

}

static class Rectangle extends Shape

{

public void calculatearea()

{

System.out.print("Enter The Length Of The Rectangle:-");

int length=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Breadth Of The Rectangle:-");

int breadth=scanner.nextInt();

scanner.nextLine();

System.out.println("The Area Of The Rectangle IS:-"+length\*breadth);

}

}

static class Triangle extends Shape

{

public void calculatearea()

{

System.out.print("Enter The Base Of The Triangle:-");

int base=scanner.nextInt();

scanner.nextLine();

System.out.print("Enter The Height Of The Triangle:-");

int height=scanner.nextInt();

scanner.nextLine();

float area=base\*height;

System.out.println("The Area Of The Triangle IS:-"+area);

}

}

public static void main(String[] args)

{

Shape sp=new Shape();

Shape cr=new Circle();

Shape rct=new Rectangle();

Shape tri=new Triangle();

cr.calculatearea();

rct.calculatearea();

tri.calculatearea();

}

}

1. **Pattern Program.**

**PROGRAM**

import java.util.Scanner;

public class pattern1 {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

System.out.print("Enter The Number:-");

int num=scanner.nextInt();

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

{

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

{

System.out.print(" ");

}

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

{

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

}

System.out.println();

}

}

}

1. **Reverse a given number.**

**PROGRAM**

import java.util.Scanner;

public class reversenumber {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

int sum=0;

int num=scanner.nextInt();

while (num!=0)

{

int rem=num%10;

sum=sum\*10+rem;

num/=10;

}

System.out.println(sum);

}

}

1. **Vote eligible or not.**

**PROGRAM**

import java.util.Scanner;

public class voteeligible {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

System.out.print("Enter Your Age:-");

int age=scanner.nextInt();

if (age<18)

{

System.out.println("You Are Not Eligible TO Vote");

}

else

{

System.out.println("You Are Eligible To Vote");

}

}

}

1. **Vowels Count.**

**PROGRAM**

import java.util.Scanner;

public class vowelscount {

public static void main(String[] args)

{

int vc=0;

Scanner scanner=new Scanner(System.in);

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

String str=scanner.nextLine();

str.toLowerCase();

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

{

if(str.charAt(i)=='a'||str.charAt(i)=='e'||str.charAt(i)=='i'||str.charAt(i)=='o'||str.charAt(i)=='u')

{

if(str.charAt(i)>='a'&&str.charAt(i)<='z')

{

vc+=1;

}

}

}

System.out.println("The Total Vowel Count In The Given String Is:-"+vc);

System.out.println("123" + 45);

System.out.println( 12 + "345");

}

}

1. **Vowels and Consonents count.**

**PROGRAM**

import java.util.Scanner;

public class vowscons {

public static void main(String[] args)

{

Scanner scanner=new Scanner(System.in);

String str;

int vow=0;

int cons=0;

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

str=scanner.nextLine();

str.toLowerCase();

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

{

if(str.charAt(i)=='a'||str.charAt(i)=='e'||str.charAt(i)=='i'||str.charAt(i)=='o'||str.charAt(i)=='u')

{

if(str.charAt(i)>='a'&&str.charAt(i)<='z')

{

vow+=1;

}

}

else

{

if(str.charAt(i)>='a'&&str.charAt(i)<='z')

{

cons+=1;

}

}

}

System.out.println("Vowels Count:-"+vow);

System.out.println("Consonents Count:-"+cons);

}

}