1. Write a program to print Hello World. Compile and run it using command prompt.

**Ans-**

class Hello

{

public static void main(String args[])

{

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

}

}

**O/P-**

Hello World

1. Write a program to declare a variable named rollNo of integer type. Assign it a value (let say 100) to it and print the following statement **roll no = 100** .

**Ans-**

class Second

{

public static void main(String args[])

{

int rollno = 100;

System.out.println("rollno="+rollno);

}

}

**O/P-**

rollno=100

1. Find the result of following expressions. You need to determine the primitive data type of the variable by looking carefully the given expression and initialize variables by any random value.

A. y = x2 + 3x - 7 (print value of y)

B. y = x++ + ++x (print value of x and y)

C. z = x++ - --y - --x + x++ (print value of x ,y and z)

D. z = x && y || !(x || y) (print value of z) [ x, y, z are boolean variables ]

**Ans-**

package core.java;

import java.util.Scanner;

class Third

{

public static void main(String args[])

{

double x,y,z;

Scanner ss = new Scanner(System.in);

System.out.println("Enter the value of x , y , z =");

x = ss.nextDouble();

y = ss.nextDouble();

z = ss.nextDouble();

double x=0;

y =(Math.pow(x,2) + 3\*x - 7);

System.out.println("y="+y);

y = x++ + ++x;

System.out.println("y="+y);

z = x++ - --y - --x + x++;

System.out.println("z= "+z);

boolean z = x && y || !(x || y);

System.out.println("z="+z);

boolean a,b,c;

Scanner ss1 = new Scanner(System.in);

boolean bn = ss1.nextBoolean();

System.out.println("Enter the value of a , b =");

a = ss1.nextBoolean();

b = ss1.nextBoolean();

c = a && b || !(a || b);

System.out.println("b="+b);

}

}

**o/p-**

1. Enter the value of x , y , z =

2

3

1

y=3.0

1. Enter the value of x , y , z =

1

2

1

y=4.0

c)

Enter the value of x , y , z =

5

10

z= -4.0

1. Write a program that initializes 2 byte type of variables. Add the values of these variables and store in a byte type of variable. [Note: primitive down casting is required in this program .

Ans-

package core.java;

import java.util.Scanner;

class Fourth

{

public static void main(String[] args)

{

byte a, b;

Scanner s = new Scanner(System.in);

System.out.print("Enter first byte value:");

a = s.nextByte();

System.out.print("Enter second byte value:");

b = s.nextByte();

byte result;

result = (byte) (a + b); //addition typecasted

System.out.println(result);

}

}

**o/p-**

Enter first byte value:1

Enter second byte value:0

1

1. Write a program that takes user’s name as command line argument and prints Welcome <entered user name>.

Ans-

package core.java;

import java.util.Scanner;

class Fifth

{

public static void main(String args[])

{

Scanner ss = new Scanner(System.in);

String s1 = ss.nextLine();

System.out.println("Welcome"+s1);

}

}

**o/p-**

Welcome CDAC

1. Write a program that takes radius of a circle as input. Read the entered radius using Scanner class. Then calculate and print the area and circumference of the circle.

**Ans-**

package core.java;

import java.util.Scanner;

class Six

{

public static void main (String args[])

{

Scanner ss = new Scanner(System.in);

System.out.println("Enter radius of circle=");

float r=ss.nextFloat();

System.out.println("Enter radius is="+r);

float pi=3.14f,Area,Perimeter;

Area = pi \* r \* r;

System.out.println("Area of circle is " + Area);

circumference = 2 \* pi \* r;

System.out.println("Perimeter of circle is " + circumference);

}

}

**o/p-**

Enter radius of circle=

4

Enter radius is=4.0

Area of circle is 50.24

circumference of circle is 25.12

1. Write a program to calculate sum of 5 subject’s marks & find percentage. Take the obtained marks from user using Scanner class. Output should be in this format [ percentage marks = 99 % ]. Use concatenation operator here.

**Ans-**

package core.java;

import java.util.Scanner;

class Seven

{

public static void main(String args[])

{

double total,percentage;

double s1,s2,s3,s4,s5;

Scanner ss = new Scanner(System.in);

System.out.println("Enter marks of Maths");

s1=ss.nextDouble();

System.out.println("Enter marks of Science");

s2=ss.nextDouble();

System.out.println("Enter marks of English");

s3=ss.nextDouble();

System.out.println("Enter marks of History");

s4=ss.nextDouble();

System.out.println("Enter marks of Biology");

s5=ss.nextDouble();

total = s1+s2+s3+s4+s5;

percentage = (total/500)\*100;

System.out.println("percentage marks= "+percentage +" % ");

}

}

**o/p-**

Enter marks of Maths

39

Enter marks of Science

40

Enter marks of English

38

Enter marks of History

35

Enter marks of Biology

37

percentage marks= 37.8 %

1. Write a program to find the simple interest. Take the principle amount, rate of interest and time from user using Scanner class.

Ans-

package core.java;

import java.util.Scanner;

class Simpleinterest

{

public static void main (String args[])

{

Scanner ss = new Scanner(System.in);

System.out.println("Enter principle amount=");

int amount = ss.nextInt();

System.out.println("Enter rate of interest=");

int rate = ss.nextInt();

System.out.println("time =");

int time = ss.nextInt();

int si = (amount \* rate \* time )/100;

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

}

}

o/p-

Enter principle amount=

200

Enter rate of interest=

20

time =

2

Simple Interest is: 80

1. Write a program to read the days (eg. 670 days) as integer value using Scanner class. Now convert the entered days into complete years, months and days and print them.

Ans-

package core.java;

import java.util.Scanner;

public class Nine

{

public static void main(String args[])

{

int m, year, week, day;

Scanner s = new Scanner(System.in);

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

m = s.nextInt();

year = m / 365;

m = m % 365;

System.out.println("Number of years:"+year);

week = m / 7;

m = m % 7;

System.out.println("Number of weeks:"+week);

day = m;

System.out.println("Number of days:"+day);

}

}

o/p-

Enter days:670

Number of years:1

Number of weeks:43

Number of days:4

1. Write a program to convert temperature from Fahrenheit to Celsius. Take Fahrenheit as input using Scanner class. [ formula : C= 5\*(f-32)/9 ]

Ans-

package core.java;

import java.util.Scanner;

public class Ten

{

public static void main(String args[])

{

double f,c;

Scanner ss = new Scanner(System.in);

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

f = ss.nextDouble();

c = ( 5\*(f-32)/9);

System.out.println("Temperature in celcius="+c);

}

}

o/p-

Enter Temperature:

45

Temperature in celcius=7.222222222222222

1. Write a program to swap two numbers without using third variable.

**Solution :-**

package exam;

import java.util.Scanner;

class Swap

{

public static void main(String args[])

{

int a,b;

Scanner ss = new Scanner(System.in);

System.out.println("Enter the value of a and b");

a = ss.nextInt();

b = ss.nextInt();

System.out.println("--Before swap--");

System.out.println("First number = " + a);

System.out.println("Second number = " + b);

a = a-b;

b = a+b;

a = b-a;

System.out.println("--Before swap--");

System.out.println("First number = " + a);

System.out.println("Second number = " + b);

}

}

1. In a company an employee is paid as under: If his basic salary is less than Rs. 10000, then HRA = 10% of basic salary and DA = 90% of basic salary. If his salary is either equal to or above Rs. 10000, then HRA = Rs. 2000 and DA = 98% of basic salary. If the employee's salary is input by the user write a program to find his gross salary. [ formula : GS= Basic + DA + HRA ]

Ans-

package core.java;

import java.util.Scanner;

public class Twelve

{

public static void main(String args[])

{

float bs, gs, da, hra;

Scanner ss = new Scanner(System.in);

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

bs=ss.nextFloat();

if (bs<1500)

{

hra = bs \* 10 / 100;

da = bs \* 90 / 100;

}

else

{

hra = 500;

da = bs \* 98 / 100;

}

gs = bs + hra + da;

System.out.println("You Entered Basic Salary = "+bs);

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

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

System.out.println("-------------------");

System.out.println ("Gross salary = Rs. "+gs);

}

}

o/p-

Enter basic salary:

15000

You Entered Basic Salary = 15000.0

HRA = 500.0

DA = 14700.0

-------------------

Gross salary = Rs. 30200.0

1. Program to find greatest in 3 numbers. [ once using if else statement and then using ternary operator ( logical operator) ]

package exam;

**Solution :-**   
**using if else statement**

import java.util.Scanner;

class LargestNo

{

public static void main(String args[])

{

Scanner ss = new Scanner(System.in);

System.out.println("Enter the Value of a , b and c");

int a = ss.nextInt();

int b = ss.nextInt();

int c = ss.nextInt();

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

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

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

if(a>=b && a>=c)

System.out.println(a + "a is the largest number.");

else if(b>=a && b>=c)

System.out.println(b + " b is the largest number.");

else

System.out.println(c + "c is the largest number.");

}

}

**using ternary operator:**

package core.java;

import java.util.Scanner;

class LargestNo

{

public static void main(String[] args)

{

int a, b, c, d;

Scanner s = new Scanner(System.in);

System.out.println("Enter all three numbers:");

a = s.nextInt();

b = s.nextInt();

c = s.nextInt();

d = c > (a > b ? a : b) ? c : ((a > b) ? a : b);

System.out.println("Largest Number:"+d);

}

}

o/p-

Enter all three numbers:

10

12

1

Largest Number:12

1. Program to check that entered year is a leap year or not.\

**Solution :-**

package exam;

import java.util.Scanner;

class LeapYear

{

public static void main(String args[])

{

int year;

boolean leap = false;

Scanner ss = new Scanner(System.in);

System.out.println("Enter the Year :");

year = ss.nextInt();

if(year%4 == 0)

{

if(year%100 == 0)

{

if(year%400 == 0)

{

leap = true;

}

else

{

leap = false;

}

}

else

{

leap = true;

}

}

else

{

leap = false;

}

if(leap)

System.out.println(year + " is a Leap Year ");

else

System.out.println(year + " is not a Leap Year ");

}

}

1. Accept person’s gender (character m for male and f for female), age (integer), as input and then check whether person is eligible for marriage or not.

Ans-

package core.java;

import java.util.Scanner;

class Ifelse

{

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

{

char gender;

int age;

Scanner ss=new Scanner(System.in);

System.out.println("Enter Gender (Male/Female): ");

gender = ss.next().charAt(0);

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

age=ss.nextInt();

if((age >= 21 && gender == 'm')||(age >= 18 && gender == 'f'))

{

System.out.println("person is eligible for marriage ");

}

else

{

System.out.println("person is not eligible for marriage ");

}

}

}

o/p-

Enter Gender (Male/Female):

f

Enter age: 19

person is eligible for marriage

Enter Gender (Male/Female):

m

Enter age: 27

person is eligible for marriage