Unit 1: Basic Programs on C Programming

01. write a program to display "welcome to c language"

**package** project;

**public** **class** Prog1 {

**public** **static** **void** main(String args[]) {

System.***out***.println("Welcome to the c lng");

}

}

02. Write a program to multiply and divide two numbers and print them in the form of equation (4\*3=12 8/4=2)?

**import** java.util.Scanner;

**public** **class** Program2 {

**public** **static** **void** main(String args[])

{

**int** a,b,c,d,e,eq1,eq2;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

a=sc.nextInt();

b=sc.nextInt();

c=sc.nextInt();

d=sc.nextInt();

System.***out***.println(a+"\*"+b+"="+(a\*b));

System.***out***.println(c+"/"+d+"="+(**double**)(c/d));

}

}

03. write a program to find he addition of two numbers

**import** java.util.\*;

**public** **class** Prog3 {

**public** **static** **void** main(String args[])

{

**int** a,b,c;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

a=sc.nextInt();

b=sc.nextInt();

c=a+b;

System.***out***.println("Addition of 2 no = "+c);

}

}

04. write a program to find this subtraction of three numbers

**package** project;

**import** java.util.Scanner;

**public** **class** prog4 {

**public** **static** **void** main(String args[])

{

**int** a,b,c;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

a=sc.nextInt();

b=sc.nextInt();

c=a-b;

System.***out***.println("Addition of 2 no = "+c);

05. write a program to find the multiplication of four numbers

**package** project;

**import** java.util.Scanner;

**public** **class** prog5 {

**public** **static** **void** main(String args[])

{

**int** a,b,c,d,e;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the 4 no");

a=sc.nextInt();

b=sc.nextInt();

c=sc.nextInt();

d=sc.nextInt();

e=a\*b\*c\*d;

System.***out***.println("Mutiplication of 4 no = "+e);

}

}

06. write a program to find addition of 5 numbers

**package** project;

**import** java.util.\*;

**public** **class** Prog6 {

**public** **static** **void** main(String args[])

{

**int** a,b,c,d,e,f;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

a=sc.nextInt();

b=sc.nextInt();

c=sc.nextInt();

d=sc.nextInt();

e=sc.nextInt();

f=a+b+c+d+e;

System.***out***.println("Addition of 5 no = "+f);

}

}

07. write a program to find the area of circle

**package** project;

**import** java.util.\*;

**public** **class** Prog7 {

**public** **static** **void** main(String args[]) {

**double** A, r;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the r");

r=sc.nextDouble();

A=3.14\*r\*r;

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

}

}

Q8.write the program to find the area of triangle

**package** project;

**import** java.util.\*;

**public** **class** Program9 {

**public** **static** **void** main(String args[]) {

**double** A,b,h;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the value of b");

b=sc.nextDouble();

System.***out***.println("Entre the value of h");

h=sc.nextDouble();

A=0.5\*b\*h;

System.***out***.println("area of triangle"+A);

}

}

Q9. write the program to find area of rectangle

**package** project;

**import** java.util.\*;

**public** **class** Program10 {

**public** **static** **void** main(String args[]) {

**double** A,l,h;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the value of l");

l=sc.nextDouble();

System.***out***.println("Entre the value of h");

h=sc.nextDouble();

A=l\*h;

System.***out***.println("area of triangle"+A);

}

}

11. Write a program to find the square and cube of a given number?

**package** project;

**import** java.util.Scanner;

**public** **class** Program11 {

**public** **static** **void** main(String args[]) {

**int** n ,squre,cube;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

n=sc.nextInt();

squre=n\*n;

cube=n\*n\*n;

System.***out***.println("squre of the no="+squre);

System.***out***.println("cube of the no="+cube);

}

}

12. Write a program to find the square root of a given number (use sqrt () function)? Math.sqrt(a)

**package** project;

**import** java.util.\*;

**public** **class** Prog12 {

**public** **static** **void** main(String args[])

{

**int** a;

**double** b;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

a=sc.nextInt();

b=Math.*sqrt*(a);

System.***out***.println("squreroot of the number = "+b);

}

}

13. Write a program to find the area and perimeter of a square?

**package** project;

**import** java.util.Scanner;

**public** **class** Prog13 {

**public** **static** **void** main(String args[]) {

**double** A,side,perimeter;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the value of side");

side=sc.nextInt();

A=side\*side;

System.***out***.println("area of squre ="+A);

perimeter =4\*side;

System.***out***.println("perimeter of squre ="+perimeter);

}

}

14. Write a program to find the area and circumference of a circle?

**package** project;

**import** java.util.Scanner;

**public** **class** prog14 {

**public** **static** **void** main(String args[]) {

**double** A, r,c;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the r");

r=sc.nextDouble();

A=3.14\*r\*r;

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

c=2\*3.14\*r;

System.***out***.println("Circumference of circle"+c);

}

}

15. Write a program to find the area of a sphere?

**package** project;

**import** java.util.Scanner;

**public** **class** prog15 {

**public** **static** **void** main(String args[]) {

**double** A, r;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the r");

r=sc.nextDouble();

A=4\*3.14\*r\*r;

System.***out***.println("Area of sphere"+A);

}

}

16. Write a program to find the volume of a cylinder?

**package** project;

**import** java.util.\*;

**public** **class** Prog16 {

**public** **static** **void** main(String args[])

{

**double** V,h,r;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Entre the value of h");

h=sc.nextDouble();

System.***out***.println("Entre the value of r");

r=sc.nextDouble();

V=3.14\*r\*h;

System.***out***.println("valume of cylinder="+V);

}

}

17. Write a program to find your age in days?

**package** project;

**import** java.util.\*;

**public** **class** Prog17 {

**public** **static** **void** main(String args[]) {

**int** age,days;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no of age");

age=sc.nextInt();

days=age\*365;

System.***out***.println("your days in age="+days);

}

}

18. Write a program to read your address and print it?

**package** project;

**import** java.util.\*;

**public** **class** Prog18 {

**public** **static** **void** main(String args[]) {

String s;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Entre your address");

s=sc.nextLine();

System.***out***.println("your address is:"+s);

}

}

19. Write a program to print the area of triangle if three sides are given?

**package** project;

**import** java.util.\*;

**public** **class** Prog19 {

**public** **static** **void** main(String args[]) {

**double** S,a,b,c,d;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the no");

a=sc.nextInt();

b=sc.nextInt();

c=sc.nextInt();

S=(a+b+c)/2 ;

d=Math.*sqrt*(S\*(S-a)\*(S-b)\*(S-c));

System.***out***.println("The area of triangle="+d);

}

}

20. Write a program to read the marks of 5 subjects and display the total, per, class

import java.util.Scanner;

public class MarksProcessor {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

float[] marks = new float[5];

float total = 0;

for (int i = 0; i < 5; i++) {

System.out.print("Enter marks for subject " + (i + 1) + ": ");

marks[i] = sc.nextFloat();

total += marks[i];

}float percentage = total / 5;

String classification;

if (percentage >= 60)

classification = "First Class";

else if (percentage >= 50)

classification = "Second Class";

else if (percentage >= 35)

classification = "Pass Class";

else

classification = "Fail";

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

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

System.out.println("Class: " + classification);

}

}

21. Write a program to find the simple interest and compound interest?

import java.util.Scanner;

public class MechanicalEnergy {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter mass (m in kg): ");

double m = sc.nextDouble();

System.out.print("Enter height (h in meters): ");

double h = sc.nextDouble();

System.out.print("Enter velocity (v in m/s): ");

double v = sc.nextDouble();

double g = 9.8; // acceleration due to gravity

double potentialEnergy = m \* g \* h;

double kineticEnergy = 0.5 \* m \* v \* v;

double totalEnergy = potentialEnergy + kineticEnergy;

System.out.println("Total Mechanical Energy: " + totalEnergy + " Joules");

}

}

22. The total mechanical energy of a particle is given by e = mgh+(1/2) mv^2?

import java.util.Scanner;

public class MechanicalEnergy {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter mass (m in kg): ");

double m = sc.nextDouble();

System.out.print("Enter height (h in meters): ");

double h = sc.nextDouble();

System.out.print("Enter velocity (v in m/s): ");

double v = sc.nextDouble();

double g = 9.8; // acceleration due to gravity

double potentialEnergy = m \* g \* h;

double kineticEnergy = 0.5 \* m \* v \* v;

double totalEnergy = potentialEnergy + kineticEnergy;

System.out.println("Total Mechanical Energy: " + totalEnergy + " Joules");

}

}

23 write a program to accept length breathe and height of room and accept length and height of doors and window to calculate total area to be printed (including roof also)

**package** project;

**import** java.util.Scanner;

**public** **class** Prog23 {

**public** **static** **void** main(String args[]) {

**double** lr,hr,hd,br,ld,lw,hw,Ad,Aw,Ar,Area,floar;

**int** sa;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the lenght,height,breath of room");

lr=sc.nextDouble() ;

hr=sc.nextDouble();

br=sc.nextDouble();

System.***out***.println("Entre the length and width of the door");

hd=sc.nextDouble();

ld=sc.nextDouble();

System.***out***.println("Enter the height and length of the window");

hw=sc.nextDouble();

lw=sc.nextDouble();

Ar=2\*(lr\*br)+2\*(br+hr)+2\*(lr\*hr);

System.***out***.println("Enter the area of the room="+Ar);

Ad=(ld\*hd);

System.***out***.println("Enter the area of the door="+Ad);

Aw=(lw\*hw);

System.***out***.println("Enter the area of the window="+Aw);

floar=(lr\*br);

System.***out***.println("Entre the area of floar="+floar);

Area=Ad-Aw-floar;

System.***out***.println("Area"+Area);

}

}

24. write a program to accept basic salary from user and calculate HRA, TA and DA and calculate gross salary

**package** project;

**import** java.util.\*;

**public** **class** Prog24 {

**public** **static** **void** main(String args[]) {

**double** basic\_salary,hra,ta,da,gs;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Entre the basic salary");

basic\_salary=sc.nextDouble();

hra=basic\_salary\*0.15;

System.***out***.println("hra"+hra);

ta=basic\_salary\*0.20;

System.***out***.println("ta"+ta);

da=basic\_salary\*0.25;

System.***out***.println("da"+da);

gs=basic\_salary=hra+ta+da;

System.***out***.println("gs"+gs);

}

}

25. write a program to perform swapping of two number using third variable

**package** project;

**import** java.util.\*;

**public** **class** Prog25 {

**public** **static** **void** main(String args[]) {

**int** a,b,temp;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the value");

a=sc.nextInt();

b=sc.nextInt();

temp=a;

a=b;

b=temp;

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

}

}

26. write a program to perform swapping of two number without using third variable

**package** project;

**public** **class** Prog26 {

**public** **static** **void** main(String args[]) {

**int** a=34;

**int** b=23;

a=a+b;

b=a-b;

a=a-b;

System.***out***.println("number of swapping:");

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

}

}

27. write a program to perform swapping of two number with by using bitwise operator 10

**package** project;

**public** **class** Prog26\_1 {

**public** **static** **void** main(String args[]) {

**int** a=34;

**int** b=23;

a=a\*b;

b=a/b;

a=a/b;

System.***out***.println("number of swapping:");

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

}

}

28. write a program to perform conversion of litres to millilitres

**package** project;

**import** java.util.\*;

**public** **class** Prog28 {

**public** **static** **void** main(String args[]) {

**double** l,ml;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Enter the liter");

l=sc.nextDouble();

ml=l\*1000;

System.***out***.println("ml="+ml);

}

}

29. write a program to perform conversion of kilometres to metres

**package** project;

**import** java.util.\*;

**public** **class** Prog29 {

**public** **static** **void** main(String args[]) {

**double** kl,m;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the kl");

kl=sc.nextDouble();

m=kl\*1000;

System.***out***.println("kl in m"+m);

}

}

30. write a program to perform conversion between H:M:S to seconds

31. write a program to perform conversion of Millilitres to litres

**package** project;

**import** java.util.\*;

**public** **class** Prog31 {

**public** **static** **void** main(String args[]) {

**int** ml,l;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Entre the ml");

ml=sc.nextInt();

l=ml/1000;

ml=ml%1000;

System.***out***.println(l+"litre"+ml+"ml");

}

}

32. write a program to perform conversion of metres to kilometres

33. write a program to perform conversion of seconds to H:M:S

**package** project;

**import** java.util.\*;

**public** **class** Prog33 {

**public** **static** **void** main(String args[]) {

**int** h,m,s;

Scanner sc =**new** Scanner(System.***in***);

System.***out***.println("Entre the second");

s=sc.nextInt();

h=s/3600;

m=(s%3600)/60;

s=s%60;

System.***out***.println(h+":"+m+":"+s);

}

}

34. write a program to find remainder and quotient by accepting divisor and dividend

**package** project;

**import** java.util.Scanner;

**public** **class** Prog34 {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("Enter the dividend: ");

**int** dividend = scanner.nextInt();

System.***out***.print("Enter the divisor: ");

**int** divisor = scanner.nextInt();

**if** (divisor == 0) {

System.***out***.println("Error: Divisor cannot be zero.");

} **else** {

**int** quotient = dividend / divisor;

**int** remainder = dividend % divisor;

System.***out***.println("Quotient = " + quotient);

System.***out***.println("Remainder = " + remainder);

}

scanner.close();

}

}

35. write a program to perform reverse operation on four-digit numbers

**package** project;

**import** java.util.Scanner;

**public** **class** Prog35 {

**public** **static** **void** main(String args[])

{

**int** n,a,b,c;

Scanner sc= **new** Scanner(System.***in***);

System.***out***.println("Enter the four digit number");

n=sc.nextInt();

a=n%10;

n=n/10;

b=n%10;

n=n/10;

c=n%10;

n=n/10;

System.***out***.println(a+""+b+""+c+""+n);

}

}

37. A milk vendor buys milk at the rate of 3.25/- the then adds a litre of water for every four litres of milk and sells the water milk at the rate of 4.15/1t. calculate the gain for milk vendor?

**package** project;

**public** **class** Prog37

{

**public** **static** **void** main(String[] args)

{

**double** costPricePerLitre = 3.25;

**double** sellingPricePerLitre = 4.15;

**int** milkLitres = 100;

**int** waterLitres = 25;

**int** totalLitresSold = milkLitres + waterLitres;

**double** totalCostPrice = milkLitres \* costPricePerLitre;

**double** totalSellingPrice = totalLitresSold \* sellingPricePerLitre;

**double** profit = totalSellingPrice - totalCostPrice;

**double** gainPercent = (profit / totalCostPrice) \* 100;

System.***out***.println("Total Cost Price: ₹" + totalCostPrice);

System.***out***.println("Total Selling Price: ₹" + totalSellingPrice);

System.***out***.println("Profit: ₹" + profit);

System.***out***.printf("Gain Percentage: %.2f%%\n", gainPercent);

}

}

38. The temperature of the city is input through the keyboard in Fahrenheit. Write a program to convert into Celsius?

**package** project;

**import** java.util.Scanner;

**public** **class** Prog38 {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("Enter temperature in Fahrenheit: ");

**double** fahrenheit = scanner.nextDouble();

**double** celsius = (fahrenheit - 32) \* 5 / 9;

System.***out***.println("Temperature in Celsius: " + celsius);

}

}

39. Given the coordinates of two points (x1,y1) and (x2,y2). Write a program to find the distance between these two points?

**package** project;

**import** java.util.\*;

**public** **class** Prog39

{

**public** **static** **void** main(String[] args)

{

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("Enter x1: ");

**double** x1 = scanner.nextDouble();

System.***out***.print("Enter y1: ");

**double** y1 = scanner.nextDouble();

System.***out***.print("Enter x2: ");

**double** x2 = scanner.nextDouble();

System.***out***.print("Enter y2: ");

**double** y2 = scanner.nextDouble();

**double** distance = Math.*sqrt*(Math.*pow*(x2- x1 ,2) + Math.*pow* (y2 - y1, 2));

System.***out***.println("Distance between the two points: " + distance);

}

}

40. Rajesh’s basic salary is input through the keyboard. His D.A. is 40% of basic salary, and H.R.A. is 20% of basic salary. Write a program to calculate his gross sal?

**package** project;

**import** java.util.\*;

**public** **class** Prog40 {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("Enter Rajesh's basic salary: ");

**double** basicSalary = scanner.nextDouble();

**double** da = 0.40 \* basicSalary;

**double** hra = 0.20 \* basicSalary;

**double** grossSalary = basicSalary + da + hra;

System.***out***.println("Gross Salary of Rajesh: " + grossSalary);

}

}

41.convert and print the result in meters and centimetres? 41. The distance between two cities in Km. is input through the keyboard. Write a program to convert and print the result in meters and centimetres?

**package** project;

**import** java.util.\*;

**public** **class** Prog41 {

**public** **static** **void** main(String args[]) {

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Entre the distance bet two cities in kl");

**double** kilometers= sc.nextDouble();

**double** meters=kilometers\*1000;

**double** centimeters= kilometers\*100000;

System.***out***.println("Distence in meters:"+meters);

System.***out***.println("Distence in centimeters:"+centimeters);

}

}

42. Write a program which accepts the amount in dollars and convert into rupees?

**package** project;

**import** java.util.Scanner;

**public** **class** Proh42 {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("Enter amount in dollars: ");

**double** dollars = scanner.nextDouble();

**double** conversionRate = 83.00;

**double** rupees = dollars \* conversionRate;

System.***out***.println("Equivalent amount in Indian Rupees: ₹" + rupees);

scanner.close();

}

}

43. write a program to find kinetic energy and potential energy

44. write a program to find arithmetic mean and harmonic mean

45. write a program to find the surface area of cylinder

46. write a program to find velocity and distance by using Newton's law

**package** project;

**import** java.util.Scanner;

**public** **class** Prog43 {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("Enter initial velocity (u) in m/s: ");

**double** u = scanner.nextDouble();

System.***out***.print("Enter acceleration (a) in m/s^2: ");

**double** a = scanner.nextDouble();

System.***out***.print("Enter time (t) in seconds: ");

**double** t = scanner.nextDouble();

**double** v = u + a \* t;

**double** s = u \* t + 0.5 \* a \* t \* t;

System.***out***.println("Final velocity (v) = " + v + " m/s");

System.***out***.println("Distance covered (s) = " + s + " meters");

scanner.close();

}

}

47. write a program to find the area and perimeter of the ring

48. write a program to find the volume and surface area of cuboid

49. write a program to convert the temperature from Celsius to Kelvin unit

50. Write a programme to accept a Number from user and display its ascii value

**package** project;

**import** java.util.\*;

**public** **class** Prog50 {

**public** **static** **void** main(String[] args) {

**char** ch;

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.println("Enter character:");

ch = scanner.next().charAt(0);

System.***out***.println("ASCII = " + (**int**)ch);

}

}