**23 BASIC PROGRAM**

**1) Write a program to add and subtract two numbers?**

#include <stdio.h>

int main()

{

int a,b,add,sub;

printf("Enter value of a & b:");

scanf("%d%d",&a,&b);

add=a+b;

sub=a-b;

printf("Addition=%d\nSubtraction=%d",add,sub);

return 0;

}

**O/P:**

Enter value of a & b:10

5

Addition=15

Subtraction=5

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

#include <stdio.h>

int main()

{

int m1,m2,d1,d2,mul,divd;

printf("Enter value of a & b:");

scanf("%d%d",&m1,&m2);

printf("Enter value of a & b:");

scanf("%d%d",&d1,&d2);

mul=m1\*m2;

divd=d1/d2;

printf("%d\*%d=%d %d/%d=%d",m1,m2,mul,d1,d2,divd);

return 0;

}

**O/P:**

Enter value of a & b:4

3

Enter value of a & b:8

4

4\*3=12 8/4=2

**3) Write a program to find the square and cube of a given number?**

#include <stdio.h>

int main()

{

int n,square,cube;

printf("Enter a number:");

scanf("%d",&n);

square=n\*n;

cube=n\*n\*n;

printf("Square=%d\ncube=%d",square,cube);

return 0;

}

**O/P:**

Enter a number:8

Square=64

cube=512

**4)Write a program to find the square root of a given number(use sqrt() function)?**

**Math.sqrt(a)**

#include <stdio.h>

#include<math.h>

int main()

{

int n,squareRoot;

printf("Enter a number:");

scanf("%d",&n);

squareRoot=sqrt(n);

printf("Square root of %d is %d",n,squareRoot);

return 0;

}

**O/P:**

Enter a number:8

Square root of 8 is 2

**5) Write a program to find the area and perimeter of a square?**

#include <stdio.h>

int main()

{

int side,area,perimeter;

printf("Enter the value of side:");

scanf("%d",&side);

area=side\*side;

perimeter=4\*side;

printf("Area of square is %d\n",area);

printf("Perimeter of square is %d",perimeter);

return 0;

}

**O/P:**

Enter the value of side:8

Area of square is 64

Perimeter of square is 32

**6) Write a program to find the area and circumference of a circle?**

#include <stdio.h>

int main()

{

float r,area,circum;

printf("Enter value of r:");

scanf("%f",&r);

area=3.14\*r\*r;

circum=2\*3.14\*r;

printf("Area of circle=%f\nCircumference of circle=%f",area,circum);

return 0;

}

**O/P:**

Enter value of r:2.2

Area of circle=15.197600

Circumference of circle=13.816000

**7) Write a program to find the area of a sphere?**

#include <stdio.h>

int main()

{

float r,area;

printf("Enter value of r:");

scanf("%f",&r);

area=4\*3.14\*r\*r;

printf("Area of sphere=%f",area);

return 0;

}

**O/P:**

Enter value of r:7

Area of sphere=615.440002

**8) Write a program to find the volume of a cylinder?**

#include <stdio.h>

int main()

{

float r,h,v;

printf("Enter value of radius & height:");

scanf("%f%f",&r,&h);

v=3.14\*r\*r\*h;

printf("Volume of cylinder=%f",v);

return 0;

}

**O/P:**

Enter value of radius & height:2 3

2

Volume of cylinder=56.520000

**9) Write a program to find your age in days?**

#include <stdio.h>

int main()

{

int age,days;

printf("Enter your age:");

scanf("%d",&age);

days=age\*365;

printf("Total days=%d",days);

return 0;

}

**O/P:**

Enter your age:20

Total days=7304

**10) Write a program to find the simple interest and compound interest?**

#include <stdio.h>

#include <math.h>

int main()

{

float p,t,r,SI,CI;

printf("Enter principal amount:");

scanf("%f",&p);

printf("Enter rate:");

scanf("%f",&r);

printf("Enter time:");

scanf("%f",&t);

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

CI=p \* (pow((1 + r / 100 ),t)) - p;

printf("Simple Interest=%f\nCompound Interest=%f",SI,CI);

return 0;

}

**O/P:**

Enter principal amount:16534

Enter rate:4

Enter time:2

Simple Interest=1322.719971

Compound Interest=1349.173096

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

#include <stdio.h>

int main()

{

float m,g,h,v,MG;

printf("Enter value of m,g,h,v:");

scanf("%f%f%f%f",&m,&g,&h,&v);

MG=m\*g\*h+(1/2)\*m\*v\*v;

printf("Total mechanical energy:%f",MG);

return 0;

}

**O/P:**

Enter value of m,g,h,v:10

9.8

2

7

Total mechanical energy:196.000000

**12) Write a program to convert the given seconds into hours–minutes–seconds?**

#include <stdio.h>

int main()

{

int sec,h,m,s;

printf("Enter total seconds:");

scanf("%d",&sec);

h=sec/3600;

m=(sec-3600)/60;

s=(sec-(3600\*h))-(m\*60);

printf("%dh:%dm:%ds",h,m,s);

return 0;

}

**O/P:**

Enter total seconds:4750

1h:19m:10s

**13) A milk vendor buys milk at the rate of 3.25/- then adds a liter of water for every 4 liters of milk and sells the water milk at the rate of 4.15/1t. calculate the gain for the milk vendor?**

#include <stdio.h>

int main()

{

float milkBuy=3.25,milkSell=4.15,totalBuyMilk,total\_Milk\_With\_Water,totalGain,amt\_Buy,amt\_sell;

printf("How much litre milk can we buy?");

scanf("%f",&totalBuyMilk);

amt\_Buy=totalBuyMilk\*3.25;

printf("Total milk buy amount=%f",amt\_Buy);

total\_Milk\_With\_Water=(totalBuyMilk/4)+totalBuyMilk;

printf("\ntotal Milk With Water=%f",total\_Milk\_With\_Water);

amt\_sell=total\_Milk\_With\_Water\*4.15;

printf("\nTotal milk sell amount=%f",amt\_sell);

totalGain=amt\_sell-amt\_Buy;

printf("\nTotal gain=%f",totalGain);

return 0;

}

**O/P:**

How much litre milk can we buy?10

Total milk buy amount=32.500000

total Milk With Water=12.500000

Total milk sell amount=51.875000

Total gain=19.375000

**14) The temperature of the city is input through the keyboard in Fahrenheit. Write a program to convert into Celsius?(5/9(F-32))**

#include <stdio.h>

int main()

{

int f,c;

printf("Enter temperature in Fahrenheit:");

scanf("%d",&f);

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

printf("Temperature in Celsius:%d",c);

return 0;

}

**O/P:**

Enter temperature in Fahrenheit:40

Temperature in Celsius:4

**15) Two numbers are input into two locations ‘a’ and ‘b’ Write a program to interchange the contents of ‘a’ and ‘b’ without using temporary variables?**

#include <stdio.h>

int main()

{

int a,b;

printf("Enter value of a & b:");

scanf("%d%d",&a,&b);

printf("Before swapping\na=%d b=%d",a,b);

a=a+b;

b=a-b;

a=a-b;

printf("\nAfter swapping\na=%d b=%d",a,b);

}

**O/P:**

Enter value of a & b:10

5

Before swapping

a=10 b=5

After swapping

a=5 b=10

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

#include <stdio.h>

#include <math.h>

int main()

{

float x1,y1,x2,y2,DB;

printf("Enter value of x1,y1,x2,y2:");

scanf("%f%f%f%f",&x1,&y1,&x2,&y2);

DB=sqrt(((x2-x1)\*(x2-x1))+((y2-y1)\*(y2-y1)));

printf("Distance between these two point is:%f",DB);

return 0;

}

**O/P:**

Enter value of x1,y1,x2,y2:25

15

35

10

Distance between these two point is:11.180340

**17) 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 salary?**

#include <stdio.h>

int main()

{

float bs,da,hra,gs;

printf("Enter basic salary:");

scanf("%f",&bs);

da=bs\*0.4;

hra=bs\*0.2;

gs=bs+da+hra;

printf("DA=%f\nHRA=%f\nGross salary=%f",da,hra,gs);

return 0;

}

**O/P:**

Enter basic salary:10000

DA=4000.000000

HRA=2000.000000

Gross salary=16000.000000

**18) The distance between two cities in Km. is input through the keyboard. Write a program to convert and print the result in meters and centimeters?**

#include <stdio.h>

int main()

{

float km;

int m,cm;

printf("Enter distance between two cities in Km:");

scanf("%f",&km);

m=km\*1000;

cm=km\*100000;

printf("Total meter=%d\nTotal centimeter=%d",m,cm);

return 0;

}

**O/P:**

Enter distance between two cities in Km:2.5

Total meter=2500

Total centimeter=250000

**19) Write a program which accepts the amount in dollars and converts it into rupees?**

#include <stdio.h>

int main()

{

float d,rs;

printf("Enter amount in dollar($):");

scanf("%f",&d);

rs=d\*83.48;

printf("Total rupees=%.2f",rs);

return 0;

}

**O/P:**

Enter amount in dollar($):2

Total rupees=166.96

**20) Write a program to read your address and print it?**

#include <stdio.h>

int main()

{

char address[255]="A/p:Natepute, Tal:Malshiras, Dist:Solapur";

printf("Address:%s",address);

return 0;

}

**O/P:**

Address:A/p:Natepute, Tal:Malshiras, Dist:Solapur

**21) Write a program to print the area of a triangle if b and h values are given?**

#include <stdio.h>

int main()

{

float b,h,area;

printf("Enter value of base and height:");

scanf("%f%f",&b,&h);

area=(h\*b)/2;

printf("Area of triangle:%f",area);

return 0;

}

**O/P:**

Enter value of base and height:12.2

10

Area of triangle:61.000000

22) Write a program to print the area of a triangle if three sides are given?

23) Write a program to read the marks of 3 subjects and display the total, avg, class?