// Q25. Write a C program to enter any number and calculate its square root.

```
#include<stdio.h>
#include<math.h>
void main()
{
 float x;

 printf("\nEnter the value: ");
 scanf("%f",&x);

 x=sqrt(x);

 printf("\nSquare root: %f",x);
}
```

// Q26. Write a C program to enter two angles of a triangle and find the third angle.

```
#include<stdio.h>
void main()
{
 float a1,a2,a3;

 printf("\nEnter 1st angle of a triangle: ");
 scanf("%f",&a1);
 printf("\nEnter 2nd angle of a triangle: ");
 scanf("%f",&a2);
```

```
 a3=180-(a1+a2);

 printf("\n3thd angle of a triangle: %f",a3);
}
```

// Q27. Write a C program to enter base and height of a triangle and find its area.

```
#include<stdio.h>
void main()
{
 float a,b,h;

 printf("\nEnter the base of a triangle: ");
 scanf("%f",&b);
 printf("\nEnter the height of a triangle: ");
 scanf("%f",&h);

 a=b*h/2;

 printf("\nArea of a triangle: %f",a);
}
```

// Q28. Write a C program to calculate area of an equilateral triangle.

```
#include<stdio.h>
void main()
{
 float a,s;

 printf("\nEnter the side of an equilateral triangle: ");
 scanf("%f",&s);

 a=1.732*s*s/4;

 printf("\nArea of an equilateral triangle: %f",a);
}
```

// Q29. Write a C program to enter marks of five subjects and calculate total, average and
// percentage.

```
#include<stdio.h>
void main()
{
 float x1,x2,x3,x4,x5,avg,p,t;

 printf("\nEnter marks of 1st subject: ");
 scanf("%f",&x1);
 printf("\nEnter marks of 2nd subject: ");
 scanf("%f",&x2);
 printf("\nEnter marks of 3rd subject: ");
 scanf("%f",&x3);
 printf("\nEnter marks of 4th subject: ");
 scanf("%f",&x4);
 printf("\nEnter marks of 5th subject: ");
 scanf("%f",&x5);

 t=x1+x2+x3+x4+x5;
 avg=t/5;
 p=(t/500)*100;

 printf("\nTotal marks: %f",t);
 printf("\nAverage marks: %f",avg);
 printf("\nPercentage: %f",p);
}
```

// Q30. Write a C program to enter P, T, R and calculate Simple Interest.

```
#include<stdio.h>
void main()
{
 float p,r,si;
 int t;
```

```
 printf("\nEnter principal: ");
 scanf("%f",&p);
 printf("\nEnter rate: ");
 scanf("%f",&r);
 printf("\nEnter time: ");
 scanf("%d",&t);

 si=p*r*t/100;

 printf("\nSimple interest: %f",si);
}
```

// Q31. Write a C program to enter P, T, R and calculate Compound Interest.

```
#include<stdio.h>
#include<math.h>
void main()
{
 float p,r,a,ci;
 int t;

 printf("\nEnter principal: ");
 scanf("%f",&p);
 printf("\nEnter rate: ");
 scanf("%f",&r);
 printf("\nEnter time: ");
 scanf("%d",&t);

 a=p*pow((1+r/100),t);
 ci=a-p;

 printf("\nCompound interest: %f",ci);
}
```

// Q32. Write a C program to show the working of escape characters in C programming.

```
#include <stdio.h>
void main()
{

printf("\nHello World\b\b\b\bFun");    // \b escape sequence
       printf("\nHello\n");                // \n escape sequence
       printf("C Programming");
       printf("\nHello \t Friends");       // \t escape sequence
      printf("\nHello Sir");
       printf("\v Welcome to C");       // \v escape sequenc
       printf("\nC\\C++");                // escape sequence to print backslash.
       printf("\nHello progra \r mming");     // \r escape sequence
        printf("\n\' Hello World");       // \' escape sequence and \" escape sequence to print single
quote and double quote.
printf("\n\" Hello World");


}
```

```
// Q33. Write a C program to input a mobile number and display 10 digits on the screen.

#include<stdio.h>
void main()
{
 unsigned long num;
 printf("\nEnter the mobile no. : ");
 scanf("%lu",&num);
 printf("\nMOBILE NO.: %lu",num);
}
```

```
/* Q35 Write a program to print the following line ( Assume the total value is contained in a
   variable named cost) The sales total is : $ 172.53 */

#include<stdio.h>
void main()
{
```

```
 float cost=172.53;
 printf("\nThe sales total is : $%.2f",cost);
}
```

```
/* Q36. Raju got 6 and half apples from each of Raghu, Sheenu and Akash. He wants to
      know how many apples he has in total without adding them. Write a program which
      could help Raju in doing this. */

#include<stdio.h>
void main()
{
 float x;
 x=3*6*0.5;
 printf("\nTotal apples Raju have: %f",x);
}
```

```
// Q37. Write a program that prints the floating point value in exponential format correct to
//      two decimal places.

#include<stdio.h>
void main()
{
 float x;
 printf("Enter the float value: ");
 scanf("%f",&x);
 printf("Value in exponent form: %.2e",x);
}
```

```
/* Q38. The population of a city is 30000. It increases by 20 % during first year and 30%
during the second year. Write a program to find the population after two years? */

#include<stdio.h>
void main()
```

```
{
 int a,p;

 a=30000*20/100;
 p=30000+a;
 a=p*30/100;
 p=p+a;

 printf("\nPopulation of city: 30000");
 printf("\nPopulation of city after 2 year: %d",p);
}
```

/* Q39. Write a program to calculate salary of an employee, given his basic pay (entered by user), HRA=15% of the basic pay and TA=20% of the basic pay.*/

```
#include<stdio.h>
void main()
{
 float bs,hr,da,gs;

 printf("\nEnter the basic salary = ");
 scanf("%f",&bs);

 hr=bs*15/100;
 da=bs*20/100;
 gs=hr+da+bs;

 printf("\n\nBasic salary = %f ",bs);
 printf("\n\nSalary of an employee = %f ",gs);
}
```

/* Q40. Write a program to find the slope of a line and angle of inclination that passes through two points P and Q with coordinates (xp, yp) and (xq, yq) respectively. */

```
#include<stdio.h>
#include<math.h>
```

```
void main()
{
 float m,a,xp,yp,xq,yq;

 printf("\nEnter x-coordinate of P point: ");
 scanf("%f",&xp);
 printf("\nEnter y-coordinate of P point: ");
 scanf("%f",&yp);
 printf("\nEnter x-coordinate of Q point: ");
 scanf("%f",&xq);
 printf("\nEnter y-coordinate of Q point: ");
 scanf("%f",&yq);

 m = (yq-yp)/(xq-xp);
 a= tanh(m);

 printf("\nSlope of a line: %f",m);
 printf("\nAngle of inclination: %f",a);
}
```

```
// Q42. Write a program to calculate the frequency (f) of a given wave with wavelength (?)
//      and speed (c), where c=?*f.

#include<stdio.h>
void main()
{
 float f,c,w;
 printf("\nEnter the wavelength of wave: ");
 scanf("%f",&w);
 printf("\nEnter the speed of wave: ");
 scanf("%f",&c);
 f=c/w;
 printf("\nFrequency of wave: %.2f",f);
}
```

```
/* Q43. A car travelling at 30 m/s accelerates steadily at 5 m/s2 for a distance of 70 m. What
```

is the final velocity of the car? [Hint: v2 = u2 + 2as] */

```
#include<stdio.h>
#include<math.h>
void main()
{
 float v;
 int u=30,a=5,s=70;
 v=sqrt(u*u + 2*a*s);
 printf("\nFinal velocity of car: %.2f m/s",v);
}
```

/* Q44. A horse accelerates steadily from rest at 4 m/s2 for 3s.
(a) What is its final velocity?
(b) How far has it travelled?
[Hint: (a) v = u + at (b) s = ut + at2] */

```
#include<stdio.h>
void main()
{
 float v,s;
 int u=0,a=4,t=3;
 s=u*t+a*t*t/2;
 v=u+a*t;
 printf("\nAcceleration of horse: %d",a);
 printf("\nInitial velocity of horse: %d",u);
 printf("\nFinal velocity of horse: %.2f m/s",v);
 printf("\nDistance travelled by horse: %.2f m",s);
}
```

// Q45. Write a C program to read an amount (integer value) and break the amount into
// smallest possible number of bank notes.

```
#include<stdio.h>
void main()
{
```

```
int amt,a,b,c,d,e,f,g,h,i,j,k,l,m;
printf("\nEnter amount: ");
scanf("%d",&amt);

a=amt/2000;
b=amt%2000;
c=b/500;
d=b%500;
e=d/100;
f=d%100;
g=f/50;
h=f%50;
i=h/10;
j=h%10;
k=j/5;
l=j%5;
m=l/1;

if(a!=0)
printf("2000 Rs notes: %d",a);
if(c!=0)
printf("\n500 Rs notes: %d",c);
if(e!=0)
printf("\n100 Rs notes: %d",e);
if(g!=0)
printf("\n50 Rs notes: %d",g);
if(i!=0)
printf("\n10 Rs notes: %d",i);
if(k!=0)
printf("\n5 Rs notes: %d",k);
if(m!=0)
printf("\n1 Rs notes: %d",m);
}
```

/* Q46. Write a C program to convert a given integer (in seconds) to hours, minutes and seconds. */

```
#include<stdio.h>
void main()
```

```
{

 int x,b=0,h=0,s=0,m=0;
 printf("Enter the seconds: ");
 scanf("%d",&x);

 if(x >= 60)
 {
    m = x / 60;
    s = x % 60;
    if(m >= 60)
     {
        h = m / 60;
        m = m % 60;
        printf("\nConversion of %d seconds in (Hours,Minutes,Seconds): %d hours %d minutes %d
seconds",x,h,m,s);
     }
    else
        printf("\nConversion of %d seconds in (Hours,Minutes,Seconds): %d minutes %d
seconds",x,m,s);
 }
 else
  printf("\nConversion of %d seconds in (Hours,Minutes,Seconds): %d seconds",x);


}
```

/* Q47. Write a C program to convert a given integer (in days) to years, months and days, assumes that all months have 30 days and all years have 365 days. */

```
#include<stdio.h>
void main()
{

 int x,b=0,y=0,d=0,m=0;
 printf("Enter the days: ");
 scanf("%d",&x);

 if(x>30 && x<365)
 {
```

```
    m = x / 30;
    d = x % 30;
   printf("\nConversion of %d days in (Year,Month,Days): %d months %d days",x,m,d);
 }
 else
 {
    if(x >= 365)
      {
        y = x / 365;
        b = x % 365;
        if(b > 30)
          {
            m = b / 30;
            d = b % 30;
                printf("\nConversion of %d days in (Year,Month,Days): %d years %d months %d
days",x,y,m,d);
          }
        else
                printf("\nConversion of %d days in (Year,Month,Days): %d years %d months %d
days",x,y,m,b);
      }

    else
       printf("\nConversion of %d days in (Year,Month,Days): %d days",x,x);
  }


}
```