Q1. WAP to enter the two sides of a rectangle and calculate the radius of the circle whose area is same as the rectang le.
Program:-

```
#include<stdio.h>
#include<math.h>  //we include the <math.h> package to use the sqrt() function
main()
{
 int s1,s2,area;
 double radius;
 printf("\nEnter the length of 2 sides of the rectangle\n");
 scanf("%d%d",&s1,&s2);

 area= s1 * s2;
 printf("\nThe Area of the Rectangle is = %d",area);   //optional

 radius = area/(3.14);
 radius = sqrt(radius);
 printf("\nThe Radius of the Circle whose area is same as the Rectangle is = %lf",radius);
}
```

Q2. WAP to calculate the gross salary of an employee by giving basic salary. Also calculate DA (60%) HRA (15%), Conveyance (15%), Medical (10%).
Gross salary = Basic + DA + Conveyance + Medical
Program:-

```
#include<stdio.h>

main()
{
 float bs;   //bs stands for basic salary
 float gs;   //gs stands for gross salary
 float da,hra,con,med;

 printf("\nPlease enter the Basic Salary of the Employee\n");
 scanf("%f",&bs);

 da = bs*(0.60);  //da is 60% of the basic salary
 hra = bs*(0.15); //hra is 15% of the basic salary
 con = bs*(0.15); //con stands for conveyance. It also is 15% of the basic salary
 med = bs*(0.10); //med stands for medical. It is 10% of the basic salary

 gs = bs + da + hra + con + med;

 printf("\nThe Gross Salary of the employee is %f",gs);
}
```

Q3. Enter two numbers and find the cube of the larger number (use ternary operator).
Program:-

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

```
main()
{
 int a,b,cube;
 printf("\nEnter the Numbers\n");
 scanf("%d%d",&a,&b);

 cube = (a>b)?a:b;
 cube = cube * cube * cube;

 printf("\nThe cube of the Larger number is = %d",cube);
}
```

Q4. Enter a 3-digit number and calculate the sum of digits.
Program:-

```
#include<stdio.h>

main()
{
 int a,sum;
 printf("\nEnter the 3-digit Number\n");
 scanf("%d",&a);

 sum = a%10;
 a = a/10;
 sum = sum + a%10;
 a = a/10;
 sum = sum + a;

 printf("\nThe sum of each digit of the given number is = %d",sum);
}
```

Q5. Enter the Principal amount, Time (in days) and Rate of Interest, then calculate the simple interest earned and the total amount payable.
Program:-

```
#include<stdio.h>

main()
{
 float pa;   //bs stands for principal amount
 float time;   //time in days
 int roi;   //roi stands for rate of interest
 float si;   //si stands for simple interest
 float tap;   //tap stands for total amount payable

 printf("\nPlease enter the Principal Amount\n");
 scanf("%f",&pa);

 printf("\nPlease enter the Time in days\n");
 scanf("%f",&time);
```

```
 printf("\nPlease enter the Rate of Interest\n");
 scanf("%d",&roi);

 si = (pa * (time/365) * roi)/100;
 printf("\nThe Simple Interest is %f",si);

 tap = pa + si;
 printf("\nThe total amount payable is %f",tap);
}
```

Q6. WAP to find roots of a quadratic equation.
Program:-

```
#include <stdio.h>
#include <math.h>
int main()
{
  int a, b, c, d;
  double root1, root2;

 //taking input

  printf("Enter a, b and c where a*x*x + b*x + c = 0\n");
  scanf("%d%d%d", &a, &b, &c);

  d = b*b - 4*a*c;

  root1 = (-b + sqrt(d))/(2*a);
  root2 = (-b - sqrt(d))/(2*a);

  printf("First root = %.2lf\n", root1);
  printf("Second root = %.2lf\n", root2);

}
```

Q7. WAP to find the smallest between three numbers using conditional operator. (In one line)
Program:-

```
#include<stdio.h>

main()
{
 int a,b,c;   //stores the three given numbers
 int smallest;   //stores the smallest numbers

 printf("\nEnter the Numbers\n");
 scanf("%d%d%d",&a,&b,&c);

 smallest = (a<b)?(a<c)?a:c:(b<c)?b:c;  //conditional operator

 printf("\nThe smallest number among the three is = %d",smallest);
}
```

Q8. WAP to convert Fahrenheit to Celsius.
Program:-

```
#include<stdio.h>

main()
{
 double f;
 double c;
 printf("\nEnter the Temperature in Fahrenheit\n");
 scanf("%lf",&f);

 c = (f-32)*(5.0/9.0);  //conversion from fahrenheit to celsius

 printf("\nThe Temperature in Celsius is = %lf",c);
}
```