Program1:-

```
#include<stdio.h>

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

 if((c-d)==0)
 printf("The denominator cannot be Zero");

 else
 {
  x = (a-b)/(c-d);
  printf("The Value is = %f",x);
 }


}
```

Program2:-

```
#include<stdio.h>

main()
{
 double x;
 int a,b;

 printf("Enter the fractional value\n");
 scanf("%lf",&x);

 a = x;
 b = a+1;

 printf("The Floor and Ceiling values of %lf are %d and %d",x,a,b);

}
```

Program3:-

```
#include <stdio.h>
#include <math.h>
int main()
{
  double 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("%lf%lf%lf", &a, &b, &c);
```

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

 if((a==0)&&(b==0))
 {
  printf("No Solution");
 }

 else if(a==0)
 {
  root1 = (-c)/b;
  printf("The only root is = %lf",root1);
 }

 else if(d==0)
 {
  printf("There are no real roots");
 }

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

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

}
```

Program4:-

```
#include<stdio.h>
main()
{
 int a,b,c;
 printf("\nEnter the 3 sides of the triangle\n");
 scanf("%d%d%d",&a,&b,&c);

 if(((a+b)>=c) || ((b+c)>= a) || ((c+a)>=b))
 {
  if((a==b)&&(b==c))
  printf("It is an Equilateral Triangle");

  else if((a==b)||(a==c)||(b==c))
  printf("It is an Isoceles Triangle");

  else if((a*a + b*b == c*c) || (a*a + c*c == b*b) || (b*b + c*c == a*a))
  printf("It is a Right Angled Triangle");

  else
  printf("It is a Scalene Triangle");
 }
```

```
 else
 printf("The Triangle is not valid");

}
```

Program5:-

```
#include<stdio.h>
main()
{
 int a,b,c;
 printf("\nEnter the 3 numbers\n");
 scanf("%d%d%d",&a,&b,&c);

 if((a>b)&&(a>c))
 {
  if(b>c)
  printf("\n%d %d %d",a,b,c);

  else
  printf("\n%d %d %d",a,c,b);
 }

 else if((b>a)&&(b>c))
 {
  if(c>a)
  printf("\n%d %d %d",b,c,a);

  else
  printf("\n%d %d %d",b,a,c);
 }

 else if((c>b)&&(c>a))
 {
  if(b>a)
  printf("\n%d %d %d",c,b,a);

  else
  printf("\n%d %d %d",c,a,b);
 }

 else
 printf("2 or more numbers are equal");
}
```

Program6:-

```
#include<stdio.h>

main()
{
 char x;
```

```
 printf("Enter the Character\n");
 scanf("%c",&x);

 if((x=='a')|| (x=='e')|| (x=='i')|| (x=='o')|| (x=='u')|| (x=='A')|| (x=='E')|| (x=='I')|| (x=='O')|| (x=='U'))
 printf("The Character '%c' is a Vowel",x);

 else
 printf("The Character '%c' is a Constant",x);

}
```

Program7:-

```
#include<stdio.h>

main()
{
 int n1,n2,res;
 char x;
 printf("Enter the operator and numbers\n"); //asking for the input
 scanf("%c%d%d",&x,&n1,&n2);

 switch(x)
 {
  case '+':
   res = n1+n2;
   printf("%d+%d=%d",n1,n2,res);
   break;
  case '-':
   res = n1-n2;
   printf("%d-%d=%d",n1,n2,res);
   break;

  case '*':
   res = n1*n2;
   printf("%d*%d=%d",n1,n2,res);
   break;

  case '/':
   res = n1/n2;
   printf("%d/%d=%d",n1,n2,res);
   break;

  case '%':
   res = n1%n2;
   printf("%d%c%d=%d",n1,x,n2,res);
   break;

  default:
   printf("Invalid Operator");

 }
```

```
}
```

Program8:-

```
#include<stdio.h>

main()
{
 int x;

 printf("Enter the Pressure Reading\n");
 scanf("%d",&x);

 if((x==2)||(x==3))
 printf("The temperature is 500 degrees");

 else if((x==4))
 printf("The temperature is 600 degrees");

 else if((x==5)||(x==6)||(x==7))
 printf("The temperature is 700 degrees");

 else
 printf("The temperature is 300 degrees");

}
```