- **Program 1:- Write a program to find roots of quadratic equation based on value of delta,i.e. If delta >;0, print values of two roots, delta=0, print value of single root and delta<0 print the message "imaginary roots".**

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
        float a,b,c,d,r1,r2
        clrscr();
        printf("Enter a, b and c of quadratic equation: ");
        scanf("%f%f%f",&a,&b,&c);
        d = b * b - 4 * a * c;
        if(d < 0)
        {
                printf("imaginary roots.\n");
        }
        else if(d==0)
        {
              r1 = -b /(2* a);
                printf("Root : %f ",r1);
        }
        else
        {
                r1 = ( -b + sqrt(d)) / (2* a);
                r2 = ( -b - sqrt(d)) / (2* a);
                printf("Roots : %f , %f",r1,r2);
        }
        getch();
}
```

- **Program 2:- Program to print half pyramid using ***

```
*
* *
* * *
```

```
#include <stdio.h>
void main()
{
        int i, j, rows;
        printf("Enter number of rows: ");
        scanf("%d",&rows);
        for(i=1; i<=rows; ++i)
        {
                for(j=1; j<=i; ++j)
                {
                        printf("* ");
                }
                printf("\n");
        }
}
```

- **Program 3: Inverted half pyramid using ***

```
* * *
* *
*
```

```
#include <stdio.h>
void main()
{
        int i, j, rows;
        printf("Enter number of rows: ");
        scanf("%d",&rows);
        for(i=rows; i>=1; --i)
        {
                for(j=1; j<=i; ++j)
                {
                printf("* ");
                }
                printf("\n");
        }
}
```

- **Program 4: Print Floyd's Triangle.**

1
2 3
4 5 6
7 8 9 10

```
#include <stdio.h>
void main()
{
	int rows, i, j, n= 1;
	printf("Enter number of rows: ");
	scanf("%d",&rows);
	for(i=1; i <= rows; i++)
	{
		for(j=1; j <= i; j++)
		{
			printf("%d ", n);
			n++;
		}
		printf("\n");
	}
}
```

- **Program 5: W.a.p Prime Number program in C**

```
#include<stdio.h>
#include<conio.h>
void main()
{
	int n,i,m=0,flag=0;
	clrscr();
	printf("Enter the number to check prime:");
	scanf("%d",&n);
	m=n/2;
	for(i=2;i<=m;i++)
	{
		if(n%i==0)
		{
			printf("Number is not prime");
			flag=1;
			break;
		}
	}
```

```
        if(flag==0)
        {
                printf("Number is prime");
        }
        getch();
}
```

- **Program 6: W.a.p Armstrong Number in C**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int n,r,sum=0,temp;
        clrscr();
        printf("enter the number=");
        scanf("%d",&n);
        temp=n;
        while(n>0)
        {
                r=n%10;
                sum=sum+(r*r*r);
                n=n/10;
        }
        if(temp==sum)
        {
                printf("armstrong  number ");
        }
        else
        {
                printf("not armstrong number");
        }
        getch();
}
```

- **Program 7: Write a program to find factorial of a given number.**

```
 #include<stdio.h>
#include<conio.h>
void main()
{
    int i,f=1,n;
    clrscr();
    printf("Enter a number: ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
```

```
    {
        f=f*i;
    }
    printf("Factorial of %d is: %d",n,f);
    getch();
}
```

- **Program 8: W.A.P Palindrome program in C**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,r,sum=0,t;
    clrscr();
    printf("enter the number");
    scanf("%d",&n);
    t=n;
    while(n>0)
    {
        r=n%10;
        sum=(sum*10)+r;
        n=n/10;
    }
    if(t==sum)
    {
        printf("palindrome number ");
    }
    else
    {
        printf("not palindrome");
    }
    getch();
}
```

- **Program 9: W.A.P Fibonacci Series in C**

```
#include<stdio.h>
#include<conio.h>
void main()
{
     int n,n1=0,n2=1,n3,i;
     clrscr();
     printf("Enter the number of elements:");
     scanf("%d",&n);
     printf("\n%d %d",n1,n2);
```

```
    for(i=2;i<n;++i)
    {
            n3=n1+n2;
            printf(" %d",n3);
            n1=n2;
            n2=n3;
    }
    getch();
}
```

- **Program 9: Write a program to read any number and print the digits of the number in reverse order.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n, r=0, rem;
    clrscr();
    printf("Enter a number: ");
    scanf("%d", &n);
    while(n!=0)
    {
            rem=n%10;
            r=r*10+rem;
            n=n/10;
    }
    printf("%d", r);
    getch();
}
```

- **Program 10: Write a C program to interchange two integer numbers.**

```
#include <stdio.h>
 void main()
{
    int a, b, t;
    printf("Enter the value of a and b\n");
    scanf("%d%d", &a, &b);
    printf("Before Swapping a = %d  b = %d\n",a,b);
    t = a;
    a   = b;
    b   = t;
    printf("After Swapping\na = %d\nb = %d\n",a,b);
 }
```

- **Program 11: Write a program to print the sum of digits of a given number**

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,sum=0,m;
    clrscr();
    printf("Enter a number:");
    scanf("%d",&n);
    while(n>0)
    {
            m=n%10;
            sum=sum+m;
            n=n/10;
    }
    printf("%d",sum);
    getch();
}
```

- **Program 12: Write a program to read array of five integer numbers and calculate their sum and average.**

```
#include<stdio.h>
#include<conio.h>
 void main()
{
        int a[5],i,sum=0;
        float avg;
        clrscr();
        for(i=0;i<5;i++)
        {
                printf("enter the value :");
                scanf("%d",&a[i] );
        }
        for(i=0;i<5;i++)
        {
                printf("%d",a[i]);
        }
        for(i=0;i<5;i++)
        {
                sum = sum + a[i];
        }
        printf(" %f",sum);
        avg=sum/5;
        printf("\n%f",avg);
```

```
        getch();
}
```

- **Program 13: Print Floyd's Triangle.**

1
3 5
7 9 11
13 15 17 19

```
#include <stdio.h>
void main()
{
        int rows, i, j, n= 1;
        printf("Enter number of rows: ");
        scanf("%d",&rows);
        for(i=1; i <= rows; i++)
        {
                for(j=1; j <= i; j++)
                {
                        printf("%d ", n);
                        n=n+2;
                }
                printf("\n");
        }
}
```

- **Program 14: Write a program to sort an array of 10 numbers in ascending order.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int a[50], n, i, j, temp;
        clrscr();
        printf("Enter number of elements\n");
        scanf("%d", &n);
        for(i = 0; i < n; i++)
        {
                scanf("%d", &a[i]);
        }
        for (i = 0 ; i < ( n - 1 ); i++)
        {
```

```
            for (j= 0 ; j < n - i - 1; j++)
            {
                  if(a[j] > a[j+1])
                  {
                        temp=a[j];
                        a[j]   = a[j+1];
                        a[j+1] = temp;
                  }
            }
      }
      printf("Sorted list in ascending order:\n");
      for ( i = 0 ; i < n ; i++ )
      {
            printf("%d\n", a[i]);
      }
      getch();
}
```

- **Program 15: Write a program to read and print one dimensional integer array for five elements**

```
#include<stdio.h>
#include<conio.h>
 void main()
{
      int a[5],i;
      clrscr();
      for(i=0;i<5;i++)
      {
            printf("enter the value :");
            scanf("%d",&a[i] );
      }
      for(i=0;i<5;i++)
      {
            printf("%d",a[i]);
      }
      getch();
}
```

- **Program 16: Write a C program to print following pattern using loop.**

```
   1
  1 2
 1 2 3
1 2 3 4
```

```
#include <stdio.h>
#include <conio.h>
void main()
{
        int i,j,k,t=0;
        clrscr();
        for (i=1; i<=5; i++)
        {
                for (k=t; k<5; k++)
                {
                        printf(" ");
                }
                for (j=0; j< i; j++)
                {
                        printf("%d",j);
                        t = t + 1;
                }
                printf("\n");
        }
        getch();
}
```

- **Program 17: Write a C program to find square root of a number.**

```
#include <stdio.h>
#include <math.h>
void main()
{
        float n, r;
        printf("Enter any number to find square root: ");
        scanf("%f", &n);
        r = sqrt(n);
        printf("Square root %f", r);
}
```

- **Program 18: Write a C program to find addition and subtraction of two numbers.**

```
#include <stdio.h>
#include<conio.h>
void main()
{
        int a, b,sum,sub;
        printf("Enter two integers: ");
        scanf("%d %d", &a, &b);
        sum=a+b;
        sub=a-b;
        printf("%d",sum);
        printf("%d",sub);
        getch();
}
```

- **Program 19: Write a C program to find largest no from 5 numbers using an array.**

```
#include <stdio.h>
#include<conio.h>
void main()
{
        int a[10], n, i, largest;
        printf("\n Enter the Numbet of the array: ");
        scanf("%d", &n);
        for (i = 0; i < n; i++)
        {
                scanf("%d", &a[i]);
        }
        largest = a[0];
        for (i = 1; i < n; i++)
        {
                if (largest < a[i])
                {
                        largest = a[i];
                }
        }
        printf("largest element present in the given array is : %d", largest);
        getch();
}
```

- **Program 20: Write a C program to print all Armstrong numbers between 1 to 1000.**

```
#include<stdio.h>
Include<conio.h>
void main( )
{
        int n, t, r, sum=0;
        clrscr( );
        printf("Armstrong numbers between 1 and 1000 are:\n");
        for(no=1; no<=1000; no++)
        {
                temp=n;
                while(n>0)
                {
                        r=n%10;
                        sum=sum+(r*r*r);
                        n=n/10;
                }
                if(t==sum)
                {
                        printf("\n%d", no);
                }
        }
        getch( );
}
```

- **Program 21: Write a C program to print following pattern using loop.**

1
1 2
1 2 3
1 2 3 4

```
#include <stdio.h>
#include <conio.h>
void main()
{
        int i,j;
        clrscr();
        for (i=1; i<=5; i++)
        {

                for (j=0; j< i; j++)
```

```
                {
                        printf("%d",j);
                }
                printf("\n");
        }
        getch();
}
```

- **Program 22: Write a program to read an integer value. Assume it is the number of a month of the year and print out the name of that month.**

```
#include <stdio.h>
#include <conio.h>
void main()
{
        int a;
        printf(“Enter the number from 1 to 12 “);
        scanf(“%d”,&a);
        if (a==1)
        {
                printf(“This is janauary”);
        }
        else if(a==2)
        {
                printf(“The month is febuary”);
        }
        else if(a==3)
        {
                printf(“The month is March”);
        }
        else if(a==4)
        {
                printf(“The month is April”);
        }
        else if(a==5)
        {
                printf(“The month is May”);
        }
        else if(a==6)
        {
                printf(“The month is June”);
        }
        else if(a==7)
        {
                printf(“The month is July”);
        }
        else if(a==8)
```

```
        {
                printf("The month is August");
        }
        else if(a==9)
        {
                printf("The month is September");
        }
        else if(a==10)
        {
                printf("The month is October");
        }
        else if(a==11)
        {
                printf("The month is November");
        }
        else if(a==12)
        {
                printf("The month is December");
        }
        else
        {
                printf("This is not valid" );
        }
        getch();
}
```

- **Program 23: Write a program to find out biggest number from four numbers using if..else..if ladder statement.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int a, b, c,d;
        clrscr();
        printf("Enter number a b c d:");
        scanf("%d %d %d %d",&a,&b,&c,&d);
        if((a>=b) && (a>=c) && (a>=d))
        {
                printf("a maximum %d",a);
        }
        else if((b>=a) && (b>=c) && (b>=d))
        {
                printf("b maximum %d",b);
        }
        else if((c>=a) && (c>=b) && (c>=d))
        {
                printf("c maximum %d",c);
```

```
        }
        else if((d>=a) && (d>=b) && (d>=c))
        {
                printf("d maximum %d",d);
        }
        getch();
}
```

- **Program 24: Write a c program to find out the sum of series 1 + 2 + 3 …. + n.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int n,I,sum=0;
        printf("Enter the n i.e. max values of series: ");
        scanf("%d",&n);
        sum = (n * (n + 1)) / 2;
        printf("Sum of the series: ");
        for(i =1;i <= n;i++)
        {
                if (i!=n)
                {
                        printf("%d + ",i);
                }
                else
                {
                        printf("%d = %d ",i,sum);
                }
        }
        getch();
}
```

- **Program 25: Write a program to check if a given character is an alphabet or number.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        char c;
        clrscr();
        printf("Enter a character: ");
        scanf("%c",&c);
        if( (c>='a' && c<='z') || (c>='A' && c<='Z'))
        {
                printf("%c is an alphabet.",c);
        }
        else
        {
                printf("%c is not an alphabet.",c);
        }
        getch();
}
```

- **Program 26: Write a C program to display first 100 numbers using for loop.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int i;
        clrscr();
        for(i=1;i<=100;i++)
        {
                printf("%d\n",i);
        }
        getch();
}
```

- **Program 27: Write a C program to display first 100 numbers using While loop.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int i=1;
        clrscr();
        while( i<=5)
```

```
        {
                printf("%d\n",i);
                i++;
        }
        getch();
}
```

- **Program 28: C Program to Calculate the Sum of Odd & Even Numbers**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int i, n, osum = 0, esum = 0;
        clrscr();
        printf("Enter the value of n\n");
        scanf("%d", &n);
        for (i = 1; i <= n; i++)
        {
                if (i % 2 == 0)
                {
                        esum = esum + i;
                }
                else
                {
                        osum = osum + i;
                }
        }
        printf("Sum of all odd numbers  = %d\n", osum);
        printf("Sum of all even numbers = %d\n", esum);
        getch();
}
```

- **Program 29: Write C program to display your address on screen. OR C Programme program to print Name, Address and Birth Date.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        clrscr();
        printf("\n Name : Rahul Patel");
        printf("\n Address : Unjha");
```

```
        printf("\n Birth Date : 24-04-1986");
        getch();
}
```

- **Program 30: Initialize one dimensional array to store ten alphabets and five integers.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        int i;
        char a[10] = {'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h','i', 'j' };
        int d[5]={ 1,2,3,4,5};
        for (i = 0; i < 10; i++)
        {
                printf("%c", a[i]);
        }
        for (i = 0; i < 5; i++)
        {
                printf("%d", d[i]);
        }
        getch();
}
```

- **Program 31: Initialize one dimensional array to store ten alphabets and five integers.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        float r, area;
        clrscr();
        printf("Enter the radius ");
        scanf("%f", &r);
        area =3.14 * r *r ;
        printf("%f\n", area);
        getch();
}
```

- **Program 32: Write a Program which accept a character from keyboard and display it in ASCII.**

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

```
{
        char c;
        clrscr();
        printf("Enter a character: ");
        scanf("%c", &c);
        printf("ASCII value of %c = %d", c, c);
        getch();
}
```

- **Program 33: Write a program to check the category of given character. The character may belong to categories such as Digit, Upper Case, Lower Case or other Symbol.**

```
#include<stdio.h>
#include<conio.h>
void main()
{
        char ch;
        printf("Enter any character: ");
        scanf("%c", &ch);
        if((ch >= 'a' && ch <= 'z'))
        {
                printf("'%c' is lowercase.", ch);
        }
        else if((ch >= 'A' && ch <= 'Z'))
        {
                printf("'%c' is uppercase.", ch);
        }
        else if(ch >= '0' && ch <= '9')
        {
                printf("'%c' is digit.", ch);
        }
        else
        {
                printf("'%c' is special Symbol.", ch);
        }
        getch();
}
```

- **Program 34: Write a program to find maximum out of three numbers.**

```
#include <stdio.h>
#include <conio.h>
void  main()
{
    int n1, n2,n3;
    printf("enter three integers to check".\n);
```

```
    scanf("%d %d%d",&n1,&n2,&n3);
    if(n1>n2)
    {
            if(n1>n3)
            {
                    printf("n1 is maximum %d",n1);
            }
            else
            {
                    printf("n3 is maximum %d",n3);
            }
    }
    else
    {
            if(n2>n3)
            {
                    printf("n2 is maximum %d",n2);
            }
            else
            {
                    printf("n3 is maximum %d",n3);
            }
    }
    getch();
}
```

- **Program 35: Write a C program to add numbers 0 to 9.**

```
    #include<stdio.h>
    #include<conio.h>
    void main()
    {
            int n, t, sum = 0, r;
            printf("Enter an number\n");
            scanf("%d", &n);
            t = n;
            while (t > 0)
            {
                    r = n % 10;
                    sum= sum + r;
                    t= t / 10;
            }
            printf("Sum of digits of %d = %d\n", n, sum);
            getch();
    }
```