1.

```
#include <stdio.h>
void main()
{
    int  j, sum = 0;
printf("The first 10 natural number is :\n");
  for (j = 1; j <= 10; j++)
    {
     sum = sum + j;
      printf("%d ",j);
    }
 printf("\nThe Sum is : %d\n", sum);
}
```

OUTPUT-

```
The first 10 natural number is :
1 2 3 4 5 6 7 8 9 10
The Sum is : 55
```

2.

```
#include <stdio.h>
int main(){
    int n,i=1;
    printf("Enter the value of n:");
    scanf("%d",&n);
    while(i<=10){
        printf("%d x %d=%d\n",n,i,n*i);
        i++;
    }
    return 0;
}
```

OUTPUT

```
Enter the value of n:10
10 x 1=10
10 x 2=20
10 x 3=30
10 x 4=40
10 x 5=50
10 x 6=60
10 x 7=70
10 x 8=80
10 x 9=90
10 x 10=100
```

3.

```
#include <stdio.h>
int main(){
    int n,i=1,sum;
    printf("Enter the value for n:");
    scanf("%d",&n);
        do {
```

```
            if(i%2!=0){
                sum=sum+i;
            }
            i++;
        }
        while(i<=n);
    printf("The sum of n terms odd number is:%d\n",sum);
    return 0;
}
```

```
OUTPUT
Enter the value for n:5
The sum of n terms odd number is:9
```

```
4.
include <stdio.h>
int main()
{
    int i,j,n;
    printf("Enter the value for n:");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++)
        {
            printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

```
OUTPUT
*
**
***
****
```

```
5
#include <stdio.h>
int main(){
int n,i=1,j,k=1;
     printf("Please Enter the Number of Rows:");
     scanf("%d", &n);
     while ( i <= n)
{
          j = 1;
          while ( j <= i )
{
          printf(" %d ",k++);
```

```
            j++;
            }
            i++;
            printf("\n");
      }
      return 0;
}
```

```
OUTPUT
1
 2  3
 4  5  6
 7  8  9  10
```

6.

```
#include <stdio.h>
int main(){
    int i=1,j,k,n,t=1,g;
    printf("Enter the value for n:");
    scanf("%d",&n);
    g=n+4-1;
    do
    {
        for(k=g;k>=1;k--)
{
            printf(" ");
        }
        for(j=1;j<=i;j++)
            printf("%d",t++);
        printf("\n");
        g--;
        i++;
    }
    while(i<=n);
    return 0;
}
```

```
OUTPUT
      1
      23
     456
    78910
```

7

```
#include <stdio.h>
int main(){
    int n,i,j,k=1,s;
    printf("Enter the value for n:");
    scanf("%d",&n);
```

```
    for(i=0;i<n;i++) {
        for(s=1;s<=n-i;s++)
            printf(" ");
        for(j=0;j<=i;j++) {
            if(j==0 || i==0)
                k=1;
            else
                k=k*(i-j+1)/j;
            printf("%4d",k);
        }
        printf("\n");
    }
    return 0;
}
```

OUTPUT

```
Enter the value for n:5
        1
       1   1
      1   2   1
     1   3   3   1
    1   4   6   4   1
```

8.

```
#include <stdio.h>
int main() {
    int i,n,a=0,b=1,temp;
    printf("Enter the value for n:");
    scanf("%d", &n);
    printf("Fibonacci Series:");
    for(i=1;i<=n;++i) {
        printf("%d, ",a);
        temp=a+b;
        a=b;
        b=temp;
    }
    return 0;
}
```

OUTPUT

```
Enter the value for n:9
Fibonacci Series:0, 1, 1, 2, 3, 5, 8, 13, 21,
```

9.

```
#include <stdio.h>
int main() {
    int i=1,n,sum=0;
    printf("Enter the value for n:");
    scanf("%d",&n);
    while(i<=n/2) {
```

```
        if(n%i==0) {
            sum=sum+i;
        }
        i++;
    }
    if(sum==n)
        printf("%d is PERFECT NUMBER",n);
    else
        printf("%d is NOT PERFECT NUMBER",n);
    return 0;
}
OUTPUT
Enter the value for n:20
20 is NOT PERFECT NUMBER


10.
#include <stdio.h>
#include <math.h>
int main() {
    int a,b,n,on,rem,c=0;
    double res=0.0;
    printf("Enter 2 number:");
    scanf("%d %d", &a,&b);
    printf("Amstrong number between %d to %d are:",a,b);
    for(n=a+1;n<b;++n)
    {
        on=n;
        while(on!=0)
        {
            on=on/10;
            ++c;
        }
        on=n;
        while(on!=0)
        {
            rem=on % 10;
            res=res+ pow(rem, c);
            on=on/10;
        }
        if(res==n)
            printf("%d ",n);
        c=0;
        res=0;
    }
    return 0;
}
OUTPUT
Enter 2 number:100 1000
Amstrong number between 100 to 1000 are:153 370 371 407
```

11

```
#include <stdio.h>
int main() {
    int n,i=2,flag=0;
    printf("Enter the value for n:");
    scanf("%d",&n);
    while(i<=n/2) {
        if(n%i==0)  {
            flag=1;
            break;
        }
        ++i;
    }
    if(n==1)  {
        printf("1 is neither prime nor composite");
    }
    else
    {
        if(flag==0)
            printf("%d is a prime number",n);
        else
            printf("%d is not a prime number",n);
    }
    return 0;
}
```

OUTPUT

```
Enter the value for n:8
8 is not a prime number
```

12

```
#include <stdio.h>
int main() {
    int n,r=0;
    printf("Enter the number:");
    scanf("%d",&n);
    do {
        r=r*10;
        r=r+n%10;
        n=n/10;
    }
    while(n!=0);
    printf("Reverse of the number is:%d\n",r);
    return 0;
}
```

OUTPUT

```
Enter the number:12457
Reverse of the number is:75421
```

13.

```
#include <stdio.h>
void main()
{
    long int n,i,t=9;
    int sum=0;
    printf("Enter the value of n:");
    scanf("%d", &n);
    for(i=1;i<=n;i++)
    {
        sum=sum+t;
        printf("%ld ",t);
        t=t*10+9;
    }
    printf("\nsum of the series:%d\n",sum);
}
OUTPUT
Enter the value of n:6
9 99 999 9999 99999 999999
sum of the series:1111104
```

14

```
#include <stdio.h>
void main()
{
    float x,sum,t,d;
    int i=1,n;
    printf("Enter the value for x:");
    scanf("%f", &x);
    printf("Enter the value for n:");
    scanf("%d",&n);
    sum=1;
    t=1;
    while(i<n)
    {
        d=(2*i)*(2*i-1);
        t=-t*x*x/d;
        sum=sum+t;
        i++;
    }
    printf("the sum= %f\n Value of n= %d\n Value of X=%.2f
\n",sum,n,x);
}
OUTPUT
Enter the value for n:6
the sum= -104.215103
 Value of n= 6
 Value of X=8.00
```

15

```
#include <stdio.h>
#include <math.h>
void main()
{
    int x,sum,ctr,i=1,n,m,mm,nn;
    printf("Enter the value for x:");
    scanf("%d",&x);
    printf("Enter the value for n:");
    scanf("%d",&n);
    sum=x;
    m=-1;
    printf("The value of the series:\n");
    printf("%d\n",x);
    do
    {
        ctr=(2*i+1);
        mm=pow(x,ctr);
        nn=mm*m;
        printf("%d\n",nn);
        sum=sum+nn;
        m=m*(-1);
        i++;
    }
    while(i<n);
    printf("\n The sum=%d\n",sum);
}
```

OUTPUT

```
Enter the value for x:4
Enter the value for n:6
The value of the series:
4
-64
1024
-16384
262144
-4194304

The sum=-3947580
```