Use any loop

1. Write a program to calculate sum of first N natural numbers

```c
#include <stdio.h>
int main()
{
    int i = 1, s = 0, n;
    printf("Enter a number to calculate sum of first N natural numbers : ");
    scanf("%d", &n);
    do
    {
        s = s + i;
        printf("%d ", s);
        i++;
    } while (i <= n);

    return 0;
}
```

```
Output:
Enter a number to calculate sum of first N natural numbers : 11
1 3 6 10 15 21 28 36 45 55 66
```

2. Write a program to calculate sum of first N even natural numbers

```c
#include <stdio.h>
int main()
{
    int i = 1, s = 0, n;
    printf("Enter a number to calculate sum of first N even natural numbers :
");
    scanf("%d", &n);
    while (i <= n)
    {
        s = s + i * 2;
        printf("%d ", s);
        i++;
    }
     return 0;
}
```

```
Output:
Enter a number to calculate sum of first N even natural numbers : 8
2 6 12 20 30 42 56 72
```

3. Write a program to calculate sum of first N odd natural numbers

```c
#include <stdio.h>
int main()
{
    int i = 1, s = 0, n;
    printf("Enter a number to calculate sum of first N odd natural numbers :
");
    scanf("%d", &n);
    for (; i <= n; i++)
    {
        s = s + (i * 2 - 1);
        printf("%d ", s);
    }
    return 0;
}
```

```
Output:
```

```
Enter a number to calculate sum of first N odd natural numbers : 7
1 4 9 16 25 36 49
```

4. Write a program to calculate sum of squares of first N natural numbers

```c
#include <stdio.h>
int main()
{
    int i = 1, s = 0, n;
    printf("Enter a number to calculate sum of squares of first N natural
numbers : ");
    scanf("%d", &n);
    for (; i <= n; i++)
    {
        s = s + i * i;
        printf("%d ", s);
    }
    return 0;
}
```

```
================================================================================
Output:
Enter a number to calculate sum of squares of first N natural numbers : 5
1 5 14 30 55
```

5. Write a program to calculate sum of cubes of first N natural numbers

```c
#include <stdio.h>
int main()
{
    int i = 1, s = 0, n, num;
    printf("Enter a number to calculate sum of cubes of first N natural
numbers : ");
    scanf("%d", &n);
    do
    {
        s = s + i * i * i;
        printf("%d ", s);
        i++;
    } while (i <= n);
    return 0;
}
```

```
================================================================================
Output:
Enter a number to calculate sum of cubes of first N natural numbers : 6
1 9 36 100 225 441
```

6. Write a program to calculate factorial of a number

```c
#include <stdio.h>
int main()
{
    int i = 1, s = 1, n;
    printf("Enter a number to calculate factorial of a number : ");
    scanf("%d", &n);
    while (i <= n)
    {
        s = s * (n + 1 - i);
        i++;
    }
    printf("Factorial of %d is %d ", n, s);
    return 0;
}
```

```
================================================================================
Output:
Enter a number to calculate factorial of a number : 6
```

```
Factorial of 6 is 720
```

7. Write a program to count digits in a given number

```
#include <stdio.h>
int main()
{
    int i = 1, s = 0, n;
    printf("Enter a number to count digits : ");
    scanf("%d", &n);
    for (; n; i++)
    {
        n = n / 10;
    }
    printf("Digits in a given number : %d", i - 1);
    return 0;
}
```

```
================================================================================
Output:
Enter a number to count digits : 23658
Digits in a given number : 5
```

8. Write a program to check whether a given number is a Prime number or not

```
#include <stdio.h>
int main()
{
    int i = 2, n;
    printf("Enter a number to check Prime number or not : ");
    scanf("%d", &n);
    while (i <= n / 2)
    {
        if (n % i == 0)
        {
            break;
        }
        i++;
    }
    i == ((n / 2) + 1) ? printf("%d is a prime number", n) : printf("%d is
not a prime number", n);
    return 0;
}
```

```
================================================================================
Output:
Enter a number to check Prime number or not : 19
19 is a prime number
```

9. Write a program to calculate LCM of two numbers

```
#include <stdio.h>
int main()
{
    int a, b, i;
    printf("Enter two numbers to calculate LCM : ");
    scanf("%d%d", &a, &b);
    for (i = a > b ? a : b; i <= a * b; i = i + (a > b ? a : b))
    {
        if (i % a == 0 && i % b == 0)
        {
            break;
        }
    }
    printf("LCM of %d and %d is %d", a, b, i);
    return 0;
}
```

```
================================================================================
Output:
Enter two numbers to calculate LCM : 13 19
LCM of 13 and 19 is 247
```

10. Write a program to reverse a given number

```c
#include <stdio.h>
int main()
{
    int n, i, r, r1;
    printf("Enter a number to reverse : ");
    scanf("%d", &n);
    for (i = 1; n; i++)
    {
        if (i == 1)
        {
            r = n % 10;
            n = n / 10;
        }
        else
        {
            r1 = n % 10;
            n = n / 10;
            r = r * 10;
            r = r + r1;
        }
    }
    printf("%d", r);
    return 0;
}
```

```
================================================================================
Output:
Enter a number to reverse : 2365
5632
```