Assignment 6

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

Program -

```
#include<stdio.h>
int main()
{
    int n , i , sum = 0;

    printf("Enter the value of n: ");
    scanf("%d",&n);

    for(i = 1; i <= n ; i++)
       sum += i;

    printf("Sum of first %d natural numbers is %d", n , sum);
    return 0;
}
```

Output -

Enter the value of n: 10
Sum of first 10 natural numbers is 55

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

Program -

```
#include<stdio.h>
int main()
{
    int n , i , sum = 0;

    printf("Enter the value of n: ");
    scanf("%d",&n);

    for(i = 1; i <= n ; i++)
        sum += 2 * i;


    printf("Sum of first %d even natural numbers is %d", n , sum);
    return 0;
}
```

Output -

Enter the value of n: 4
Sum of first 4 even natural numbers is 20

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

Program -

```
#include<stdio.h>
int main()
{
    int n , i , sum = 0;

    printf("Enter the value of n: ");
    scanf("%d",&n);

    for(i = 1; i <= n ; i++)
        sum += 2 * i - 1;


    printf("Sum of first %d even natural numbers is %d", n , sum);
    return 0;
}
```

Output -

Enter the value of n: 4
Sum of first 4 even natural numbers is 16

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

Program -

```
#include<stdio.h>
int main()
{
    int n , i , sum = 0;

    printf("Enter the value of n: ");
    scanf("%d",&n);

    for(i = 1; i <= n ; i++)
        sum += i * i;


    printf("Sum of squares of first %d natural numbers is %d", n ,
    sum);
    return 0;
}
```

Output -

Enter the value of n: 3
Sum of squares of first 3 natural numbers is 14

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

Program -

```
#include<stdio.h>
int main()
{
    int n , i , sum = 0;

    printf("Enter the value of n: ");
    scanf("%d",&n);

    for(i = 1; i <= n ; i++)
        sum += i * i * i;


    printf("Sum of cubes of first %d natural numbers is %d", n , sum);
    return 0;
}
```

Output -

Enter the value of n: 5
Sum of squares of first 5 natural numbers is 225

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6. Write a program to calculate factorial of a number

Program -

```
#include<stdio.h>
int main()
{
    int n;
    printf("Enter a number: ");
    scanf("%d",&n);
    printf("Factorial of %d is ",n);
    int fact = 1;
    while(n)
    {
       fact *= n;
       n--;
    }

    printf("%d",fact);
    return 0;
}
```

Output -

Enter a number: 6
Factorial of 6 is 720

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

Program -

```
#include<stdio.h>
int main()
{
    int n;

    printf("Enter a number: ");
    scanf("%d",&n);

    int count = 0;
    while(n > 0)
    {
        n = n / 10;
        count++;
    }
    printf("Number of digit are %d",count);
    return 0;
}
```

Output -

Enter a number: 67825
Number of digit are 5

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

```
#include<stdio.h>
int main()
{
    int n;

    printf("Enter a number: ");
    scanf("%d",&n);
    int i;
    for(i = 2 ; i <= n ; i++)
    {
        if(n % i == 0)
         break;
    }
    if(i == n)
        printf("%d is a Prime number!",n);
    else
        printf("%d is not a Prime number!",n);
    return 0;
}
```

Output -
Enter a number: 91
91 is not a Prime number!

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9. Write a program to calculate LCM of two numbers

```
#include<stdio.h>
int main()
{
    int a , b , lcm;

    printf("Enter two numbers : ");
    scanf("%d%d",&a,&b);

    for(lcm = a > b ? a : b ; lcm <= a * b ; lcm++)
    {
        if(lcm % a == 0 && lcm % b == 0)
            break;
    }
    printf("LCM of %d and %d is %d",a , b , lcm);
    return 0;
}
```

Output -
Enter two numbers : 4 6
LCM of 4 and 6 is 12

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10. Write a program to reverse a given number

Program -

```
#include<stdio.h>
int main()
{
    int n , d , rev = 0;

    printf("Enter a number: ");
    scanf("%d",&n);
    printf("Reverse of %d is ",n);
    while(n > 0)
    {
        d = n % 10;
        n = n / 10;
        rev = rev * 10 + d;
    }
    printf("%d",rev);
```

```
    return 0;
}
```

Output -

Enter a number: 4572
Reverse of 4572 is 2754