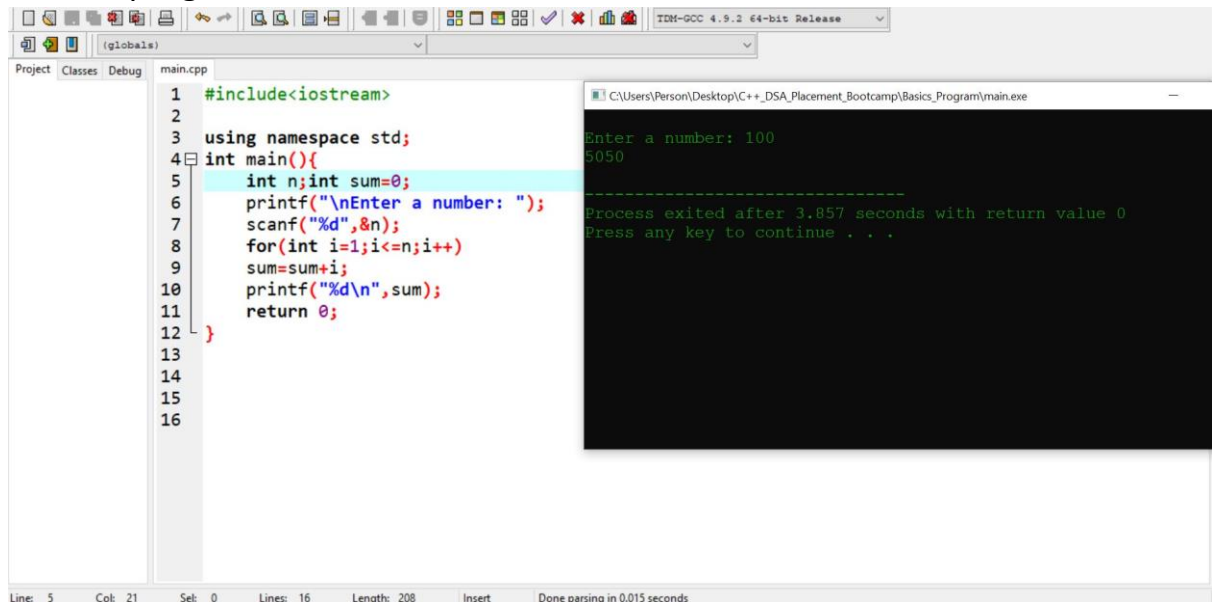


Assignment-06

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



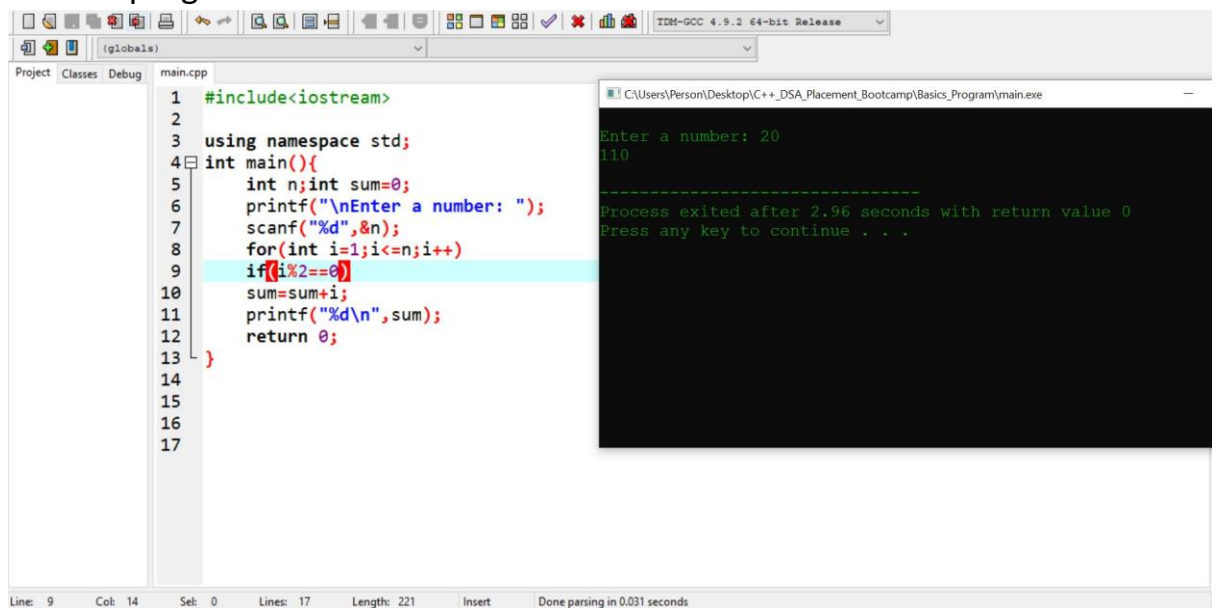
```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n;int sum=0;
6     printf("\nEnter a number: ");
7     scanf("%d",&n);
8     for(int i=1;i<=n;i++)
9         sum=sum+i;
10    printf("%d\n",sum);
11    return 0;
12 }
13
14
15
16
```

Enter a number: 100
5050

Process exited after 3.857 seconds with return value 0
Press any key to continue . . .

Line: 5 Col: 21 Sel: 0 Lines: 16 Length: 208 Insert Done parsing in 0.015 seconds

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



```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n;int sum=0;
6     printf("\nEnter a number: ");
7     scanf("%d",&n);
8     for(int i=1;i<=n;i++)
9         if(i%2==0)
10            sum=sum+i;
11    printf("%d\n",sum);
12    return 0;
13 }
14
15
16
17
```

Enter a number: 20
110

Process exited after 2.96 seconds with return value 0
Press any key to continue . . .

Line: 9 Col: 14 Sel: 0 Lines: 17 Length: 221 Insert Done parsing in 0.031 seconds

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

```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n;int sum=0;
6     printf("\nEnter a number: ");
7     scanf("%d",&n);
8     for(int i=1;i<=n;i++)
9         if(i%2!=0)
10             sum=sum+i;
11     printf("%d\n",sum);
12     return 0;
13 }
```

```
Enter a number: 20
100
-----
Process exited after 0.7454 seconds with return value 0
Press any key to continue . . .
```

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

```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n;int sum=0;
6     int square;
7     printf("\nEnter a number: ");
8     scanf("%d",&n);
9     for(int i=1;i<=n;i++){
10         square=i*i;
11         sum=sum+square;
12     }
13     printf("Sum of Squares: %d\n",sum);
14     return 0;
15 }
```

```
Enter a number: 50
Sum of Squares: 42925
-----
Process exited after 3.614 seconds with return value 0
Press any key to continue . . .
```

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

The screenshot shows a C++ IDE with a file named `main.cpp`. The code is as follows:

```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n;int sum=0;
6     int cube;
7     printf("\nEnter a number: ");
8     scanf("%d",&n);
9     for(int i=1;i<=n;i++){
10         cube=i*i*i;
11         sum=sum+cube;
12     }
13     printf("Sum of Cubes: %d\n",sum);
14     return 0;
15 }
```

The output window shows the following text:

```
C:\Users\Person\Desktop\C++_DSA_Placement_Bootcamp\Basics_Program\main.exe
Enter a number: 5
Sum of Cubes: 225
-----
Process exited after 2.081 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates: Line: 13, Col: 25, Sek: 0, Lines: 19, Length: 257, Insert, Done parsing in 0.032 seconds.

6. Write a program to calculate factorial of a number

The screenshot shows a C++ IDE with a file named `main.cpp`. The code is as follows:

```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n,fact=1;
6     printf("\nEnter a number: ");
7     scanf("%d",&n);
8     for(int i=1;i<=n;i++)
9         fact=fact*i;
10    printf("Factorial: %d",fact);
11    return 0;
12 }
```

The output window shows the following text:

```
C:\Users\Person\Desktop\C++_DSA_Placement_Bootcamp\Basics_Program\main.exe
Enter a number: 6
Factorial: 720
-----
Process exited after 0.733 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates: Line: 5, Col: 17, Sek: 0, Lines: 16, Length: 217, Insert, Done parsing in 0 seconds.

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

The image shows a C++ IDE with a source code editor and a console window. The source code in `main.cpp` is as follows:

```
1 #include<iostream>
2
3 using namespace std;
4 int main(){
5     int n,count=0;
6     printf("\nEnter a number: ");
7     scanf("%d",&n);
8     while(n!=0)
9     {
10         n=n/10;
11         count++;
12     }
13     printf("No of Digits: %d",count);
14
15     return 0;
16 }
```

The console window, titled `C:\Users\Person\Desktop\C++_DSA_Placement_Bootcamp\Basics_Program\main.exe`, displays the following output:

```
Enter a number: 400678
No of Digits: 6
-----
Process exited after 7.573 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates: Line: 13, Col: 38, Sel: 0, Lines: 20, Length: 231, Insert, Done parsing in 0.016 seconds.