

Computer Systems & Programming

Instructor:
Dr. Talha
Shahid



Lab Tasks of Lab Manual 4

SYED FAKHAR ABBAS

ME-15-C

466960

Lab Task# 1: Write a program in C++ to find the sum of first 10 natural numbers.

Code:

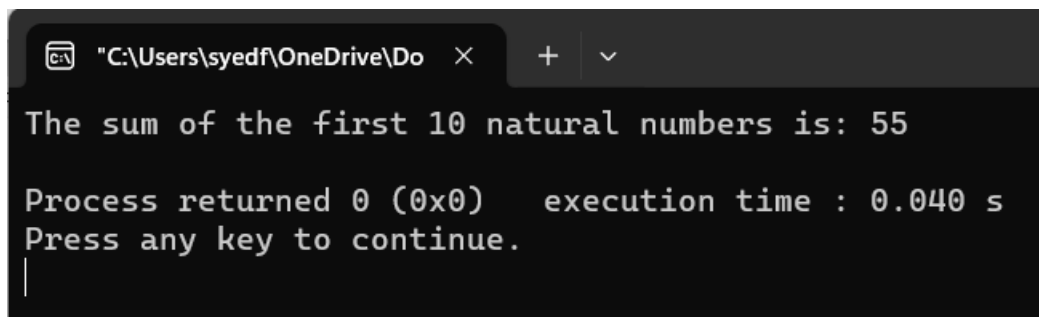
```
#include<iostream>

using namespace std;

int main() {
    int a = 0;
    for (int b = 1;
        b <= 10;
        b++);
    {
        a += b;
    }

    std::cout << "The sum of the first 10 natural numbers is: " << a << std::endl;
    return 0;
}
```

Result:

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\syedf\OneDrive\Do" and standard window controls. The command prompt displays the output of the program: "The sum of the first 10 natural numbers is: 55". Below this, it shows "Process returned 0 (0x0) execution time : 0.040 s" and "Press any key to continue." with a cursor on the next line.

```
"C:\Users\syedf\OneDrive\Do" × + ∨
The sum of the first 10 natural numbers is: 55
Process returned 0 (0x0) execution time : 0.040 s
Press any key to continue.
|
```

Lab Task# 2: Write a C++ program to Print a Table of any Number.

Code:

```
#include <iostream>

using namespace std;

int main(){

for(int i=1 ; i<=10 ; i++){

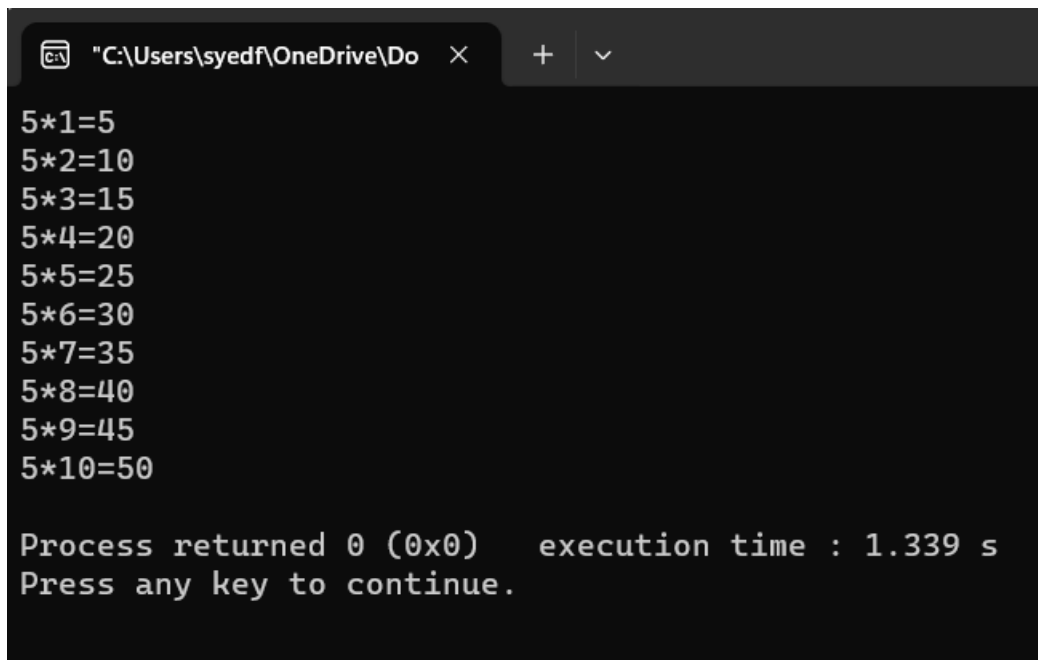
cout<<"5*"<<i<<"="<<5*i<<endl;

}

return 0;

}
```

Result:

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\syedf\OneDrive\Do" and standard window controls. The command prompt displays the output of a C++ program, which is a multiplication table for the number 5. The output consists of ten lines, each showing a multiplication from 5*1 to 5*10. Below the table, the program's exit status and execution time are shown: "Process returned 0 (0x0) execution time : 1.339 s". The prompt "Press any key to continue." is visible at the bottom.

```
"C:\Users\syedf\OneDrive\Do" × + v

5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
5*6=30
5*7=35
5*8=40
5*9=45
5*10=50

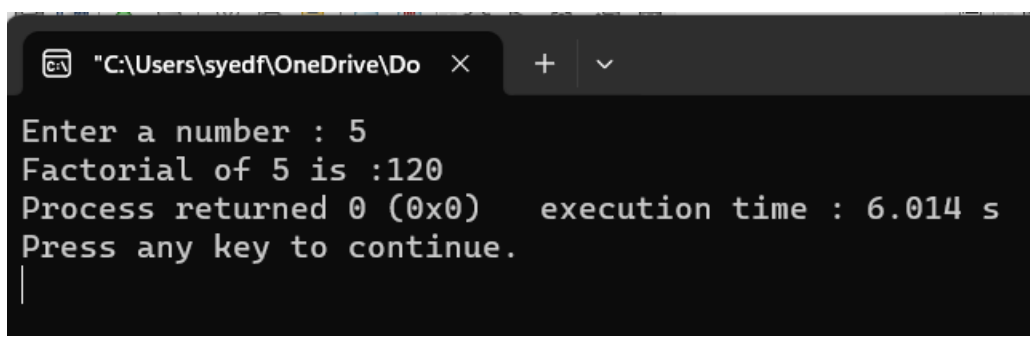
Process returned 0 (0x0) execution time : 1.339 s
Press any key to continue.
```

Lab Task# 3: Write a Program to Generate Factorial. A Certain Number Factorial of any number is the product of an integer and all the integers below it for example factorial of 4 is: $4! = 4 * 3 * 2 * 1 = 24$

Code:

```
#include<iostream>
using namespace std;
int main() {
int n, x=1 ;
cout<<"Enter a number : ";
cin>>n;
for(int a=1; a<=n ; a++)
{
    x=x*a ;
}
cout<<"Factorial of "<<n<<" is : "<<x;
return 0;
}
```

Result:

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\syedf\OneDrive\Do" and standard window controls. The command prompt displays the following text: "Enter a number : 5", "Factorial of 5 is :120", "Process returned 0 (0x0) execution time : 6.014 s", and "Press any key to continue." followed by a cursor on a new line.

```
"C:\Users\syedf\OneDrive\Do" X + v
Enter a number : 5
Factorial of 5 is :120
Process returned 0 (0x0) execution time : 6.014 s
Press any key to continue.
|
```

Lab Task# 4: Write a C++ program to generate a Fibonacci sequence up to a certain number input by the user.

Code:

```
#include<iostream>
using namespace std;
int main()
{
int num1=0;
int num2=1;
int root;
cout<<"Enter the sequence limit"<<endl;
cin>>root;
int answer;
cout<<"The Fibonnaci Series is" << endl;
cout<<num1<<" "<<endl;
cout<<num2<<" "<<endl;
for(int i=0; i< root, i++;)
{
answer=num1+num2;
num1=num2;
num2=answer;
cout<<answer<<endl;
}
return 0;
}
```

Answer ;



"C:\Users\syedf\OneDrive\Do



Enter the sequence limit

2

The Fibonnaci Series is

0

1

Process returned 0 (0x0) execution time : 3.224 s

Press any key to continue.