

Computer Systems & Programming

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Lab Manual # 6

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ME-15-C

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Lab Task# 1: *Generate the Fibonacci sequence using nested loops.*

Code:

```
#include <iostream>

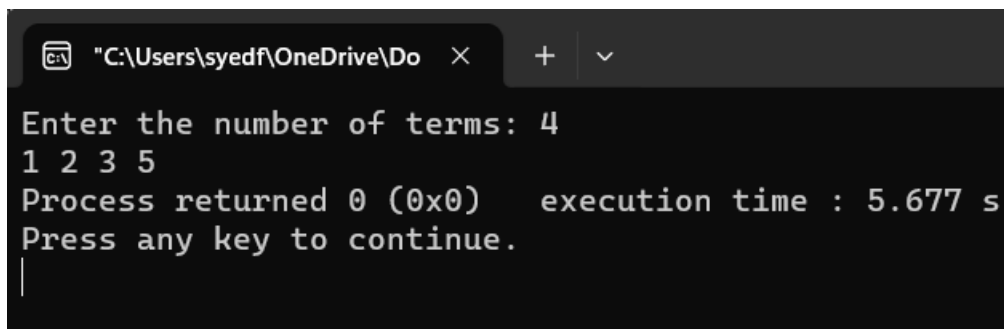
using namespace std;

int main() {
    int n;
    cout << "Enter the number of terms: ";
    cin >> n;

    int a = 0, b = 1, f;

    for (int i = 0; i < n; i++) {
        f = a + b;
        cout << f << " ";
        a = b;
        b = f;
    }

    return 0;
}
```

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\syedf\OneDrive\Do". The prompt displays the output of the Fibonacci program: "Enter the number of terms: 4", followed by the sequence "1 2 3 5" on the next line. Below that, it shows "Process returned 0 (0x0) execution time : 5.677 s" and "Press any key to continue." with a cursor on the line below.

```
C:\Users\syedf\OneDrive\Do  ×  +  ∨
Enter the number of terms: 4
1 2 3 5
Process returned 0 (0x0)   execution time : 5.677 s
Press any key to continue.
|
```

Lab Task# 2: *Create Floyd's triangle with nested loops.*

Code:

```
#include <iostream>

using namespace std;

int main() {

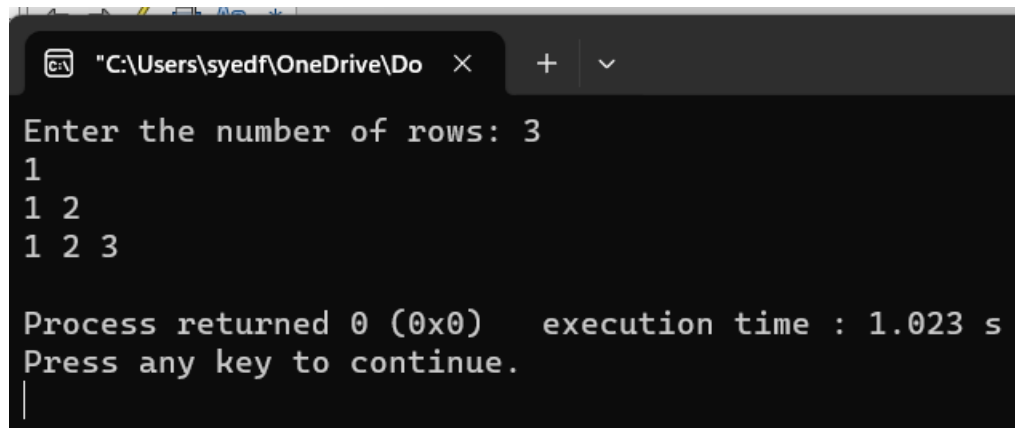
    int n;

    cout << "Enter the number of rows: ";
```

```

cin >> n;
for (int i = 1; i <= n; i++) {
    for (int j = 1; j <= i; j++) {
        cout << j << " ";
    }
    cout << endl;
}
return 0;
}

```



```

C:\Users\syedf\OneDrive\Do >
Enter the number of rows: 3
1
1 2
1 2 3

Process returned 0 (0x0)   execution time : 1.023 s
Press any key to continue.

```

Home Task# 1: Write a program using *break* or *continue* statement that only adds prime numbers from 1 to 50 and display the sum on screen.

Code:

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
    int sum = 0;
    int i = 2;
```

```
    while (i <= 50) {
```

```

bool isPrime = true;

for (int j = 2; j * j <= i; j++) {
    if (i % j == 0) {
        isPrime = false;
        break;
    }
}

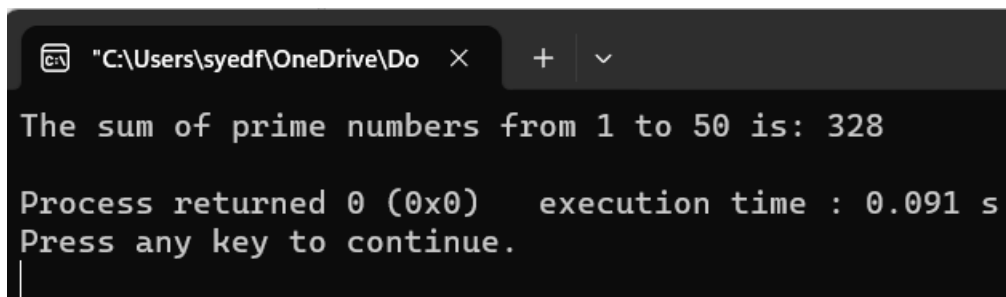
if (isPrime) {
    sum += i;
}

i++;
}

cout << "The sum of prime numbers from 1 to 50 is: " << sum << endl;

return 0;
}

```



```

C:\Users\syedf\OneDrive\Do  ×  +  ▾
The sum of prime numbers from 1 to 50 is: 328
Process returned 0 (0x0)  execution time : 0.091 s
Press any key to continue.
|

```

Home Task# 2: Write a program in C++ to create the following pattern.

```

11
2
1 2 3
1 2 3 4
1 2 3 4 5

```

Code:

```
#include <iostream>
```

```
using namespace std;
```

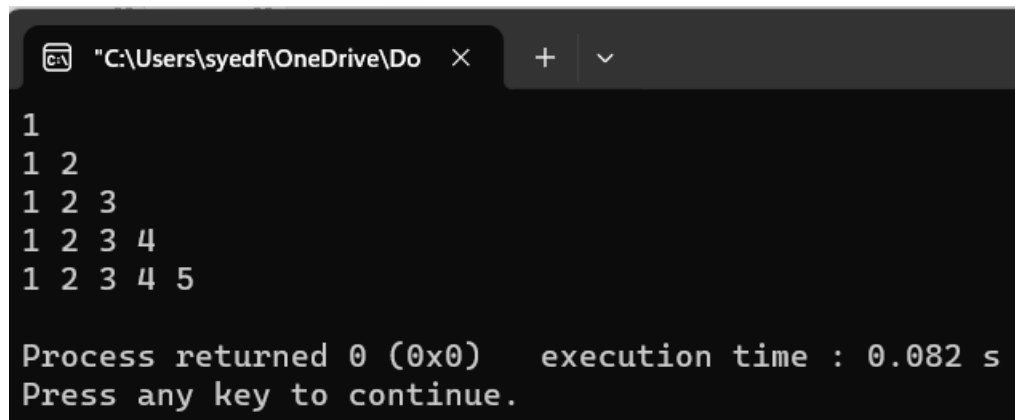
```
int main() {
    for (int i = 0; i <= 4; i++) {

```

```

    for (int j = 1; j <= i + 1; j++) {
        cout << j << " ";
    }
    cout << endl;
}
return 0;
}

```



The screenshot shows a terminal window with the following output:

```

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

Process returned 0 (0x0)   execution time : 0.082 s
Press any key to continue.

```

Home Task# 3: Write a C++ program to print:

```

12
2
4 4 4 4
6 6 6 6 6 6

```

Code:

```
#include <iostream>
```

```

int main() {
    int count = 1;
    while (count <= 6) {
        for (int i = 1; i <= count; i++) {
            std::cout << count << " ";
        }
        std::cout << std::endl;
        count++;
    }

    return 0;
}

```

"C:\Users\syedf\OneDrive\Do

+

✓

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6 6
```

Process returned 0 (0x0) execution time : 0.061 s

Press any key to continue.

|