

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



CS-114- FUNDAMENTAL OF PROGRAMMING

LAB MANUAL 6

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LAB TASKS

TASK 1:

Generate the Fibonacci sequence

CODE:

```
#include <iostream>

using namespace std;

int main() {

    int n;

    int first, second;

    cout << "Enter the number of terms: " << endl;

    cin >> n;

    cout << "Enter the first term: ";

    cin >> first;

    cout << "Enter the second term: ";

    cin >> second;

    cout << "Fibonacci Sequence is : ";

    for (int i = 0; i < n; i++) {

        cout << first << " ";

        int sum = first + second;

        first = second;

        second = sum;

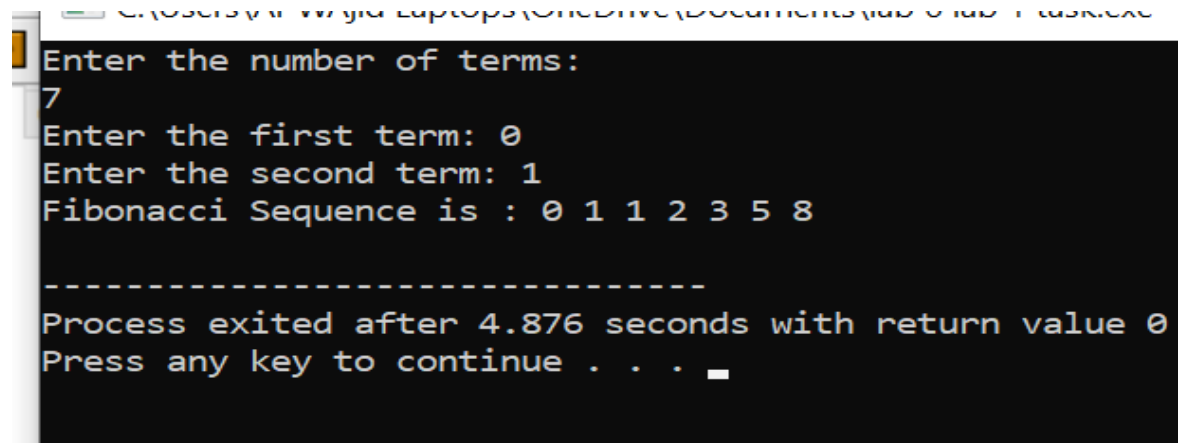
    }

    cout << endl;

    return 0;
```

```
}
```

RESULT:

A screenshot of a Windows command prompt window. The title bar shows the file path: C:\Users\... \My Documents\lab 0 lab 1 task.exe. The prompt is 'Enter the number of terms:' followed by the input '7'. The next prompt is 'Enter the first term:' followed by the input '0'. The next prompt is 'Enter the second term:' followed by the input '1'. The output is 'Fibonacci Sequence is : 0 1 1 2 3 5 8'. Below this, there is a dashed line and the text 'Process exited after 4.876 seconds with return value 0'. The final line is 'Press any key to continue . . . ' followed by a cursor.

TASK 2:

Create Flyod's triangle with nested loops.

CODE:

```
#include <iostream>

using namespace std;

int main() {

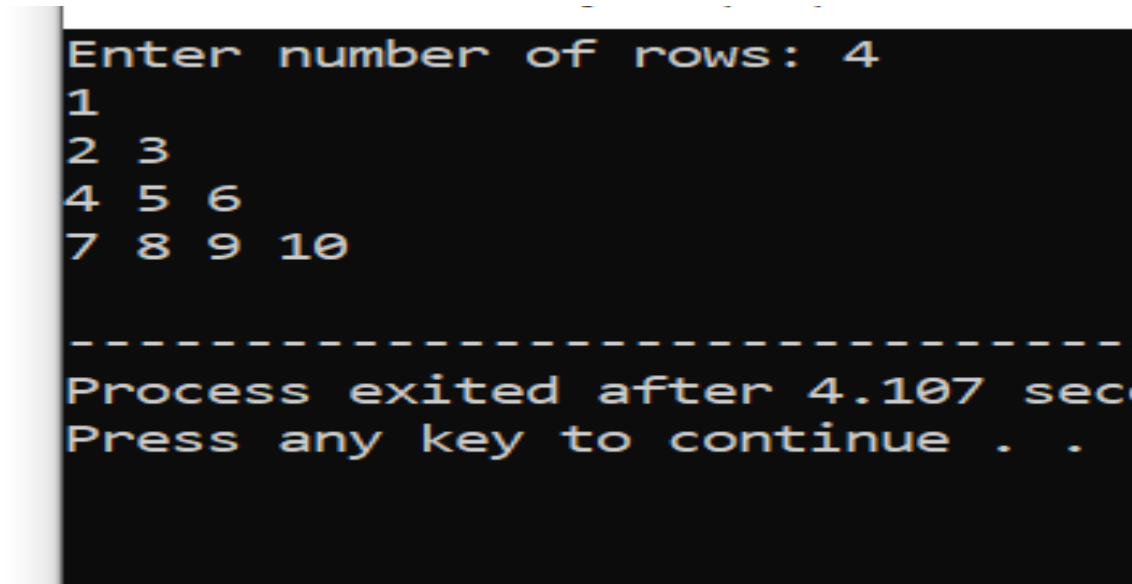
    int rows, num = 1;

    cout << "Enter number of rows: ";
    cin >> rows;

    for(int i = 1; i <= rows; i++) {
        for(int j = 1; j <= i; j++) {
            cout << num << " ";
            num ++;
        }
    }
```

```
        cout << endl;  
    }  
  
    return 0;  
}
```

RESULT:

A screenshot of a terminal window with a black background and yellow text. The text shows the output of a C++ program. It starts with the prompt "Enter number of rows: 4". Below this, it displays a pattern of numbers: the first row has "1", the second row has "2 3", the third row has "4 5 6", and the fourth row has "7 8 9 10". After a dashed line separator, it shows "Process exited after 4.107 sec" and "Press any key to continue . .".

```
Enter number of rows: 4  
1  
2 3  
4 5 6  
7 8 9 10  
  
-----  
Process exited after 4.107 sec  
Press any key to continue . .
```

HOME TASKS

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:

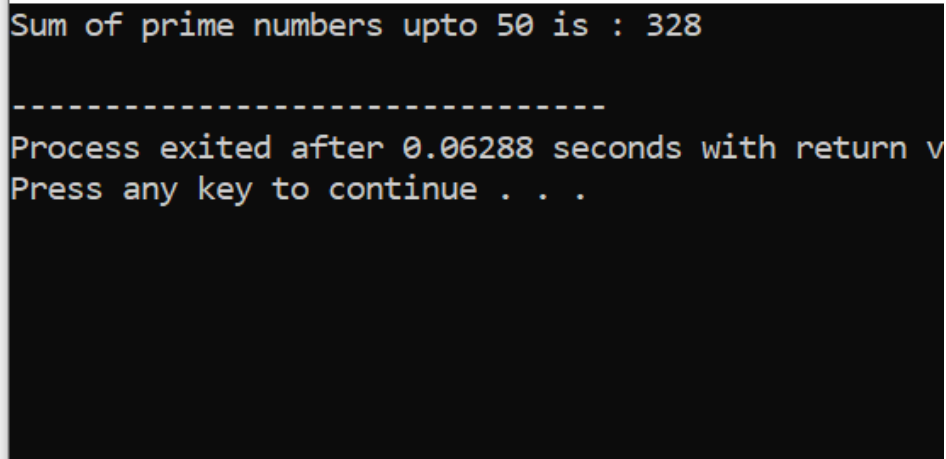
```
#include <iostream>  
  
using namespace std;  
  
int main ()  
{  
    int n = 50;  
    int result= 0;  
    int check = 1;
```

```

for (int i = 2; i<=50; i++) {
    check = 1;
    for (int j = 2; j<i; j++) {
        if (i%j==0) {
            check = 0;
            break;
        }
    }
    if (check){
        result = result +i;
    }
}
cout <<"Sum of prime numbers upto 50 is : " <<result<<endl;
return 0;
}

```

RESULT:



```

Sum of prime numbers upto 50 is : 328
-----
Process exited after 0.06288 seconds with return v
Press any key to continue . . .

```

TASK 2:

. Write a program in C++ to create the following pattern.

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

CODE:

```
#include <iostream>

using namespace std;

int main()

{

int i,j;

int n ;

cout <<"Enter value of n : ";

cin>>n;

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

for (j=1; j<=i; j++){

cout <<j<<" ";

}

cout <<endl;

}

return 0;

}
```

RESULT:

```
Enter value of n : 5
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

-----
Process exited after 0.7936 seconds with return
Press any key to continue . . .
```

TASK 3:

Write a C++ program to print:

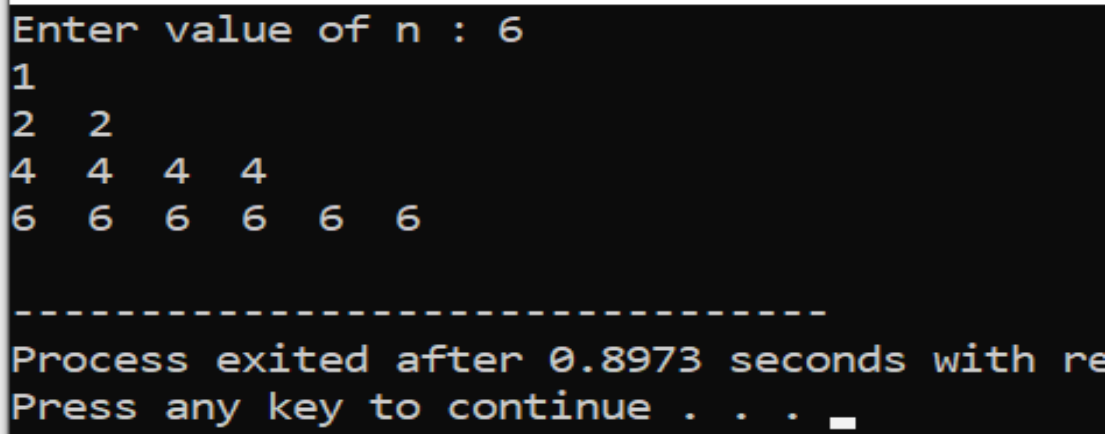
```
1
2 2
4 4 4 4
6 6 6 6 6 6
```

CODE:

```
#include <iostream>
using namespace std;
int main()
{
    int first_num = 1;
    int i,j;
    int n ;
    cout <<"Enter value of n : ";
    cin>>n;
    cout<< first_num <<endl;
    for (i=2; i<=n; i=i+2){
        for (j=1; j<=i; j+=1){
```

```
cout <<i<<" ";  
}  
cout <<endl;  
}  
return 0;  
}
```

RESULT:



The screenshot shows the output of a C++ program. It starts with the prompt "Enter value of n : 6". The user has entered 6. The program then prints a pattern of numbers: 1, 2 2, 4 4 4 4, and 6 6 6 6 6 6. Below this pattern is a dashed line. The program then prints "Process exited after 0.8973 seconds with re" and "Press any key to continue . . .".

```
Enter value of n : 6  
1  
2 2  
4 4 4 4  
6 6 6 6 6 6  
  
-----  
Process exited after 0.8973 seconds with re  
Press any key to continue . . .
```