CS & Programming Lab
Lab Manual 06

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Lab Task #1

/*1. Generate the Fibonacci sequence using nested loops.*/

```
#include <iostream>
using namespace std;

int main()
{
	//Declaring variables an assigning values
	int n=8, i, j, num1, num2, sum;

	//Using for loops for computation
	for ( i=0; i<=n; i++)
	{
	num1=0;
	num2=1;
	for ( j=0; j<=i; j++)
	{
	cout<<num1<<", ";
	sum = num1 + num2;
	num2 = num1;
```

num1 = sum;

}

cout<<endl;}

}

```cpp
/*1. Generate the Fibonacci sequence using nested loops.*/

#include <iostream>
using namespace std;

int main()
{
    //Declaring variables an assigning values
    int n=8, i, j, num1, num2, sum;

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    for ( i=0; i<=n; i++)
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    num1=0;
    num2=1;
    for ( j=0; j<=i; j++)
    {
    cout<<num1<<", ";
    sum = num1 + num2;
    num2 = num1;
    num1 = sum;
    }
    cout<<endl;}
}
```
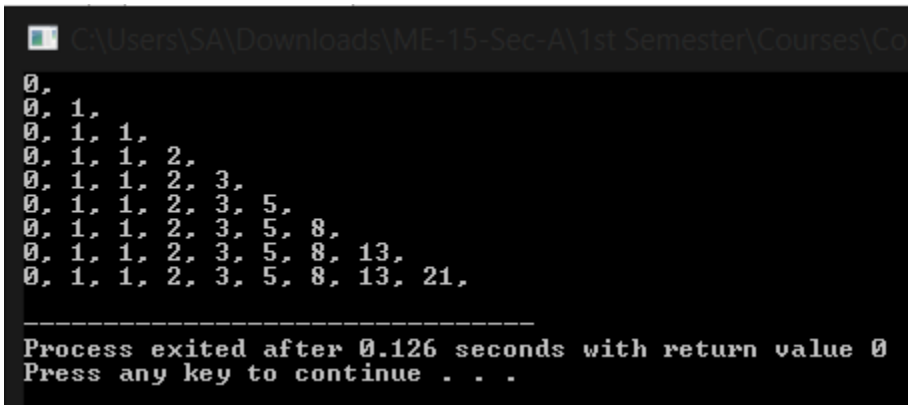
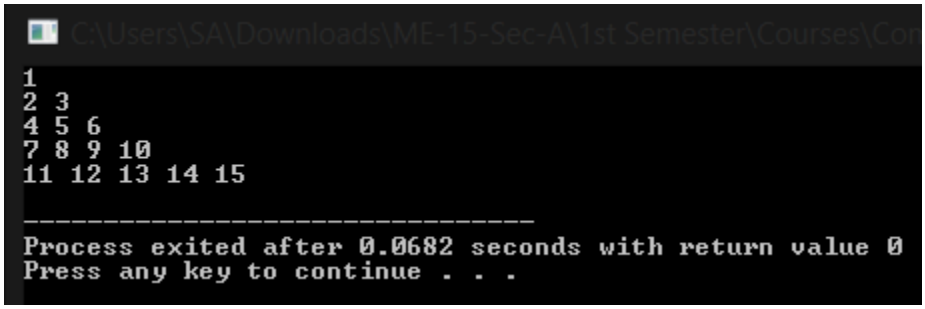



Lab Task #2

/*2. Create Pascal's triangle with nested loops.*/

```
#include <iostream>
using namespace std;

int main()
{
	int n=4, i, j, num=1;

	//Computing result and displaying output
	for ( i=0; i<=n; i++)
	{
	for ( j=0; j<=i; j++)
	{
	cout<<num<<" ";
	num++;
	}
	cout<<endl;
	}
}
```

```cpp
/*2. Create Pascal's triangle with nested loops.*/

#include <iostream>
using namespace std;

int main()
{
    int n=4, i, j, num=1;

    //Computing result and displaying output
    for ( i=0; i<=n; i++)
    {
    for ( j=0; j<=i; j++)
    {
    cout<<num<<" ";
    num++;
    }
    cout<<endl;
    }
}
```



Home Task #1

/*1. Write a program using break or continue statement that only adds prime numbers from 1 to 50

and display the sum on screen.*/

```
#include<iostream>

using namespace std;


int main()

{

	//Declaring variables and assigning values

	int sum = 2;


	//Computing result and displaying output

	for (int number=2; number<50; number++)

	{

		for (int i=2; i<number; i++) {


	if (number%i == 0)

	{break;}

	if (number%i != 0)

		{if (i == number-1)
```

{sum+=number;}

else

{continue;}

}

}

}

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

}

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

#include<iostream>
using namespace std;

int main()
{
    //Declaring variables and assigning values
    int sum = 2;

    //Computing result and displaying output
    for (int number=2; number<50; number++)
    {
        for (int i=2; i<number; i++) {

        if (number%i == 0)
        {break;}
        if (number%i != 0)
        {if (i == number-1)
        {sum+=number;}

        else
        {continue;}
        }
        }
    }
    cout<<"The sum of prime numbers from 1 to 50 is "<<sum<<"."<<endl;
}
```

```
C:\Users\SA\Downloads\ME-15-Sec-A\1st Semester\Courses\Cor
The sum of prime numbers from 1 to 50 is 328.

--------------------------------
Process exited after 0.1089 seconds with return value 0
Press any key to continue . . .
```

Home Task #2

/*2. Write a program in C++ to create the following pattern.

1

1 2

1 2 3

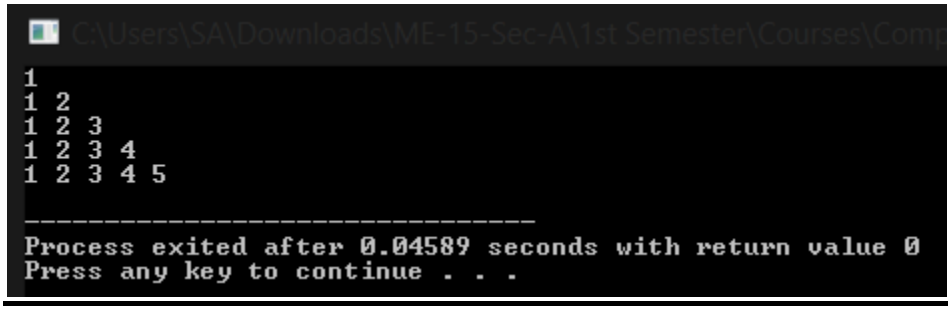
1 2 3 4

1 2 3 4 5*/

```
#include<iostream>
using namespace std;

int main()
{
	int number_of_rows=5;
	for (int i=1; i<=number_of_rows; i++)
	{
	for (int j=1; j<=i; j++)
	{cout<<j<<" ";}
	cout<<endl;
	}
```

}

```cpp
/*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*/


#include<iostream>
using namespace std;

int main()
{
    int number_of_rows=5;
    for (int i=1; i<=number_of_rows; i++)
    {
    for (int j=1; j<=i; j++)
    {cout<<j<<" ";}
    cout<<endl;
    }
}
```



Home Task #3

/*3. Write a C++ program to print:

1

2 2

4 4 4 4

6 6 6 6 6 6*/

```
#include<iostream>
using namespace std;

int main()
{
	//Declaring variables and assigning values
	int max_num=6;

	//Computing and displaying result
	for (int i=1; i<=max_num; i++)
	{
	if (i%2!=0 && i>1)
	continue;
```

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

```
/*3. Write a C++ program to print:
    1
    2 2
    4 4 4 4
    6 6 6 6 6 6*/

#include<iostream>
using namespace std;

int main()
{
    //Declaring variables and assigning values
    int max_num=6;

    //Computing and displaying result
    for (int i=1; i<=max_num; i++)
    {
    if (i%2!=0 && i>1)
    continue;

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

```
C:\Users\SA\Downloads\ME-15-Sec-A\1st Semester\Courses\Com
1
2 2
4 4 4 4
6 6 6 6 6 6

--------------------------------
Process exited after 0.04815 seconds with return value 0
Press any key to continue . . .
```