

## LAB MANUAL 6

### LAB TASKS:

1. Generate the Fibonacci sequence using nested loops.

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int x=0,y=1,z;
6     int n;
7     cout<<"Enter the range you want for fibonacci series: ";
8     cin>>n;
9     for(int i=0;i<n;i++)
10    {
11        for(int j=0;j<i;j++)
12        {
13            cout<<x<<" ";
14            z = x+y;
15            x=y;
16            y=z;
17        }
18    }
19    return 0;
20 }
```

```
D:\FOP\lab manuals\lb man6.exe
Enter the range you want for fibonacci series: 5
0,1,1,2,3,5,8,13,21,34,
-----
Process exited after 14.94 seconds with return value 0
Press any key to continue . . .
```

2. Create Floyd's triangle with nested loops.

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int n=1,rows;
6     cout<<"Enter the number of rows for Floyds triangle: ";
7     cin>>rows;
8     for(int i=1;i<=rows;i++)
9     {
10        for(int j=1;j<=i;j++)
11        {
12            cout<<n<<" ";
13            n++;
14        }
15        cout<<endl;
16    }
17    return 0;
18 }
```

```
D:\FOP\lab manuals\lab mn6.exe
Enter the number of rows for Floyds triangle: 4
1
2 3
4 5 6
7 8 9 10
-----
Process exited after 21.64 seconds with return value 0
Press any key to continue . . .
```

### HOME TASKS:

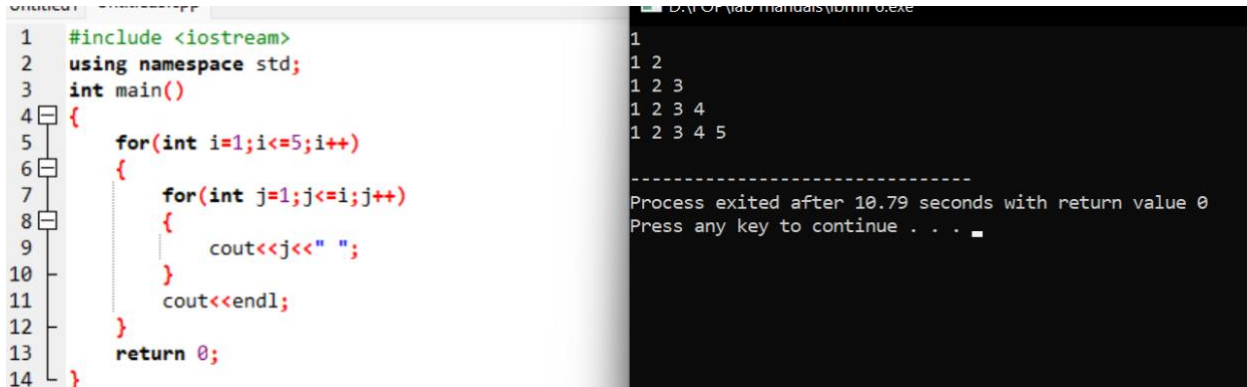
1. Write a program using break or continue statement that only adds prime numbers from 1 to 50 and display the sum on screen.

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int sum = 0;
5     for (int i=2;i<=50;i++)
6     {
7         for(int j=2;j<=i;j++)
8         {
9             if(j%i==0 && i!=j)
10            {
11                break;
12            }
13            if(i==j)
14            {
15                sum=sum+i;
16            }
17        }
18    }
19
20
21    cout<<"The sum of prime numbers from 1 to 50 is: "<<sum;
22    return 0;
23 }
```

```
D:\FOP\lab manuals\lll.exe
The sum of prime numbers from 1 to 50 is: 1274
-----
Process exited after 10.38 seconds with return value 0
Press any key to continue . . .
```

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
```



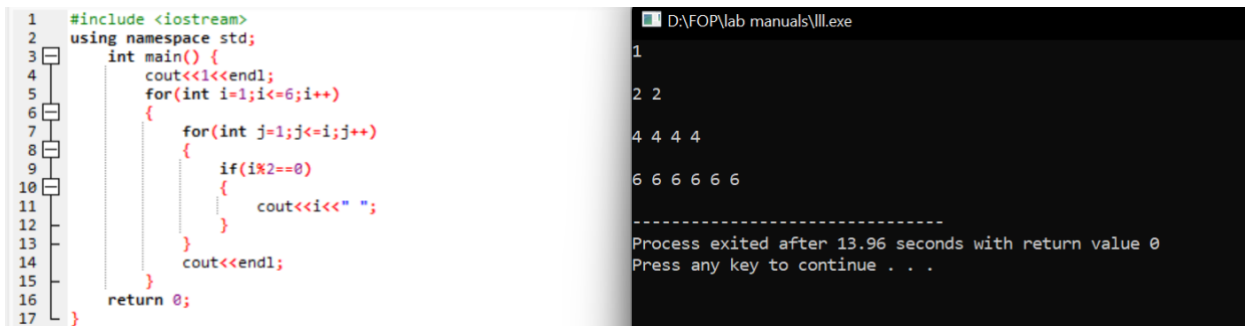
The screenshot shows a C++ program in a code editor and its execution output in a terminal window. The code uses nested loops to print the first pattern. The terminal output shows the pattern followed by a separator line and a message indicating the process exited after 10.79 seconds.

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     for(int i=1;i<=5;i++)
6     {
7         for(int j=1;j<=i;j++)
8         {
9             cout<<j<<" ";
10        }
11        cout<<endl;
12    }
13    return 0;
14 }
```

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
-----
Process exited after 10.79 seconds with return value 0
Press any key to continue . . .
```

3. Write a C++ program to print:

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



The screenshot shows a C++ program in a code editor and its execution output in a terminal window. The code uses nested loops and a conditional statement to print the second pattern. The terminal output shows the pattern followed by a separator line and a message indicating the process exited after 13.96 seconds.

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     cout<<1<<endl;
5     for(int i=1;i<=6;i++)
6     {
7         for(int j=1;j<=i;j++)
8         {
9             if(i%2==0)
10            {
11                cout<<i<<" ";
12            }
13        }
14        cout<<endl;
15    }
16    return 0;
17 }
```

```
1
2 2
4 4 4 4
6 6 6 6 6 6
-----
Process exited after 13.96 seconds with return value 0
Press any key to continue . . .
```