



**Prepared By:**

Name	CMS ID	Class	Lab Manual
Muhammad Asim Shah	470574	ME-15 "C"	6

### **Home Task:**

**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.

#### **INPUT:**

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    int sum = 0;
```

```
    for (int num = 2; num <= 50; num++) {
```

```
        bool isPrime = true;
```

```
        for (int i = 2; i <= num / 2; i++) {
```

```
            if (num % i == 0) {
```



```
isPrime = false;

break;    }

}

if (!isPrime) {
    continue; // Skip non-prime numbers
}

sum += num;
}

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

return 0;
}
```



### Output:

```
main.cpp
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int sum = 0;
6
7      for (int num = 2; num <= 50; num++) {
8          bool isPrime = true;
9
10         for (int i = 2; i <= num / 2; i++) {
11             if (num % i == 0) {
12                 isPrime = false;
13                 break;
14             }
15         }
16
17         if (!isPrime) {
18             continue;
19         }
20
21         sum += num;
22     }
23
24     cout << "Sum of prime numbers from 1 to 50: " << sum << endl;
25
26     return 0;
27 }
28
```

input

Sum of prime numbers from 1 to 50: 328

...Program finished with exit code 0  
Press ENTER to exit console.

BANDICAM

**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
```



### Inputs:

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    int rows;
```

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

```
    cin >> rows;
```

```
    for (int i = 1; i <= rows; i++) {
```

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

```
            cout << j << " ";
```

```
        }
```

```
        cout << endl;
```

```
    }
```

```
    return 0;
```

```
}
```



**Output:**

A screenshot of a C++ program in a code editor. The code is a program to print a pattern of numbers. The code is as follows:

```
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     int rows;
6
7     cout << "Enter the number of rows: ";
8     cin >> rows;
9
10
11     for (int i = 1; i <= rows; i++) {
12         for (int j = 1; j <= i; j++) {
13             cout << j << " ";
14         }
15         cout << endl;
16     }
17
18     return 0;
19 }
20
21
```

The output of the program is shown in a separate window below the code editor. It displays the pattern of numbers for 6 rows:

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

A "BANDICAM" watermark is visible in the bottom right corner of the screenshot.

**Task 3:** Write a C++ program to print:

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

**Input:**

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    int rows;
```



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

```
cin >> rows;
```

```
cout << "1" << endl;
```

```
for (int i = 1; i <= rows; i++) {
```

```
    for (int j = 1; j <= i * 2; j++) {
```

```
        cout << i * 2 << " ";
```

```
    }
```

```
    cout << endl;
```

```
}
```

```
return 0;
```

```
}
```

**Output:**



```
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     int rows;
6
7
8     cout << "Enter the number of rows: ";
9     cin >> rows;
10    cout << "1" << endl;
11
12
13    for (int i = 1; i <= rows; i++) {
14        for (int j = 1; j <= i * 2; j++) {
15            cout << i * 2 << " ";
16        }
17        cout << endl;
18    }
19
20    return 0;
21 }
22
```

Enter the number of rows: 3

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