

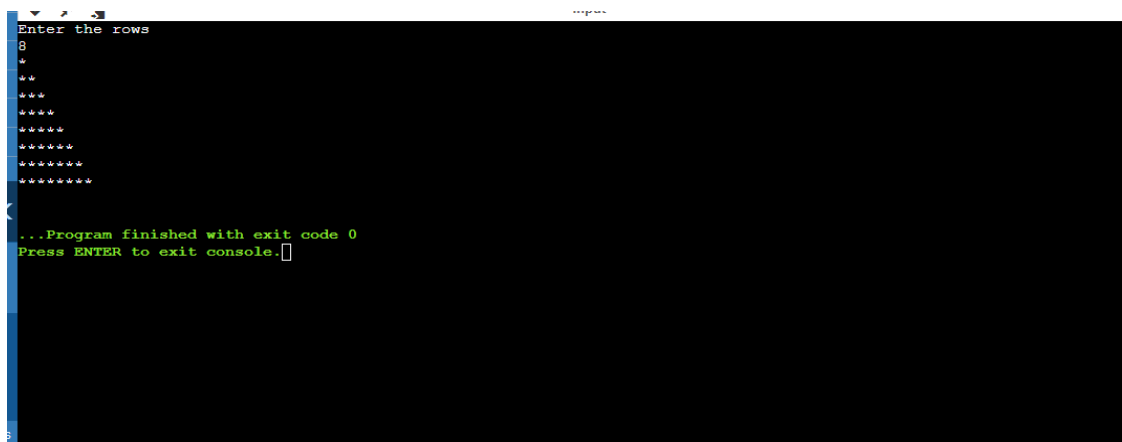
ASSIGNMENT 1.3

WAP to print following kind of patterns:

PATTERN-1

```
#include <iostream>
using namespace std;
int main()
{
    int n;
    cout<<"Enter the rows"<<endl;
    cin>>n;
    for(int i=1;i<=n;i++)
    {
        for(int j=1;j<=i;j++)
            cout<<"*";
        cout<<endl;
    }

    return 0;
}
```

A screenshot of a C++ program execution in a console window. The program prompts the user to "Enter the rows" and the user enters "8". The program then prints a pattern of asterisks (*) in a right-angled triangle shape. The pattern consists of 8 rows, with the first row having 1 asterisk and each subsequent row having one more asterisk than the previous row. The output is as follows:

```
Enter the rows
8
*
**
***
****
*****
******
*****
****
***
**
*
...Program finished with exit code 0
Press ENTER to exit console.
```

PATTERN-2

```
#include <iostream>

using namespace std;

int main()
{
    int n;

    cout<<"Enter the rows"<<endl;

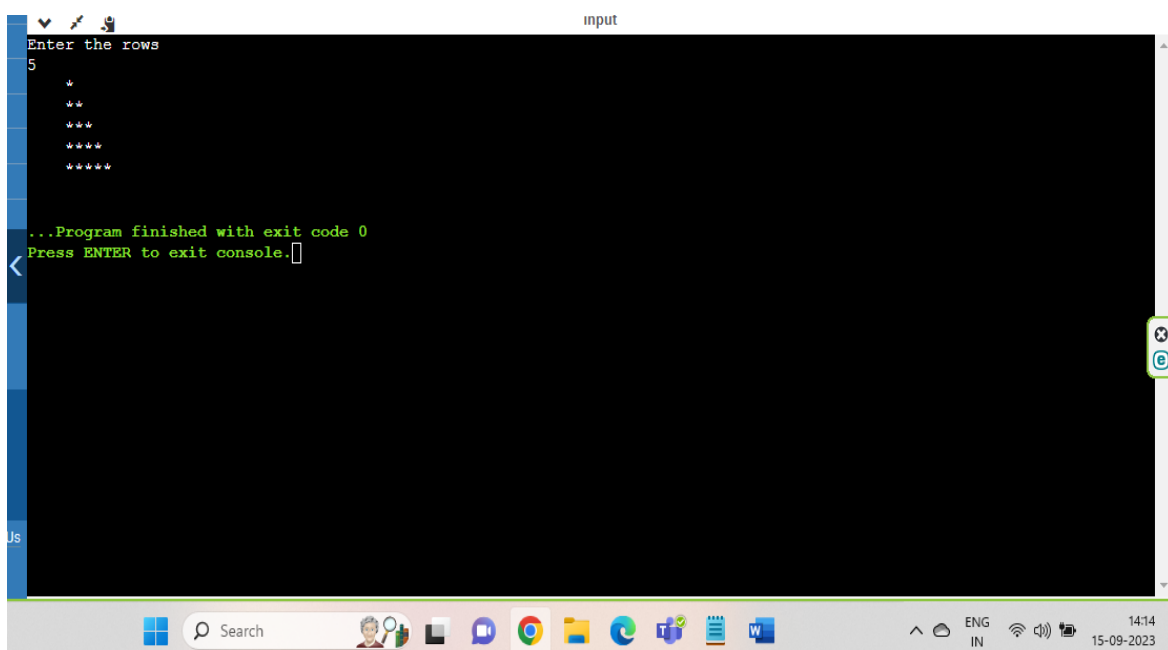
    cin>>n;

    for(int i=1;i<=n;i++)
    {
        for(int k=1;k<=n-1;k++)
            cout<<" ";

        for(int j=1;j<=i;j++)
            cout<<"*";

        cout<<endl;
    }

    return 0;
```



The screenshot shows a Windows console window titled "input" with a dark background. The program has executed the code provided above. The output shows the prompt "Enter the rows" followed by the user input "5". The program then prints a pattern of stars: the first row has 1 star, the second has 2, the third has 3, the fourth has 4, and the fifth has 5. Below the pattern, the message "...Program finished with exit code 0" and "Press ENTER to exit console." is displayed. The Windows taskbar is visible at the bottom, showing the Start button, Search bar, and several application icons. The system clock in the bottom right corner indicates the time is 14:14 on 15-09-2023.

```
input
Enter the rows
5
 *
 **
 ***
 ****
 *****

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

PATTERN-3

```
#include <iostream>

using namespace std;

int main()
{
    int n;

    cout<<"Enter the Rows";

    cin>>n;

    for(int i=1;i<=n;i++)
    {
        for(int k=1;k<=n-i;k++)

            cout<<" ";

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

            cout<<"*";

        cout<<endl;
    }
```

A screenshot of a C++ program's output in a terminal window. The program prompts the user to "Enter the Rows" and the user has entered "5". The output displays a star pattern consisting of five rows. The first row has 1 star, the second has 3 stars, the third has 5 stars, the fourth has 7 stars, and the fifth has 9 stars. The stars are aligned to the left. Below the pattern, the terminal shows the message "...Program finished with exit code 0" and "Press ENTER to exit console." with a cursor. The terminal window has a dark background and a light blue title bar with the word "input" on the right. There are icons for window control (minimize, maximize, close) and a search icon on the left side of the title bar. A small green icon is visible in the bottom right corner of the terminal window.

PATTERN-4

```
#include<iostream>

using namespace std;

int main()
{
    int size,i,j,k,l;

    cout<<"Enter the size ";

    cin>>size;

    for(i=0;i<size;i++)
    {
        for(j=size;j>i;j--)
            cout<<"*";

        for(j=1;j<=i;j++)
            cout<<" ";

        for(k=2;k<=i;k++)
            cout<<" ";

        for(j=size;j>i;j--)
        {
            if( j==size-1 && i==0)
                continue;

            cout<<"*";

        }

        cout<<endl;

    }

    return 0;
}
```



```
Enter the size 5
*****
****
***
**
*

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

PATTERN 5-

```
#include<iostream>

using namespace std;

int main()
{
    int num=65,n;

    cout<<"Enter Number of Lines:";

    cin>>n;

    for(int i=0;i<n;i++){
        for(int j=n;j>i;j--,num++)
        {
            cout<<char(num);
        }
        num=65;
        cout<<endl;
    }

    return 0;
}
```



```
input
Enter Number of Lines:4
ABCD
ABC
AB
A

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

PATTERN 6-

```
#include <iostream>

using namespace std;

int main() {

    int n;

    cout<<"Enter the number"<<endl;

    cin>>n;

    // loop to print the pattern
    for (int i = 0; i < n; i++) {

        // print column
        for (int j = 0; j <= i; j++) {

            cout << (j+1);

        }

        cout << "\n";

    }

    return 0;

}
```

```
Enter the number
6
1
12
123
1234
12345
123456

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

PATTERN-7

```
#include<iostream>

using namespace std;

int main()
{
    int size,i,j,k,l,ch=65;

    cout<<"Enter the size ";

    cin>>size;

    for(i=0;i<size;i++) //loop for number of rows
    {
        for(j=size;j>i;j--)
        {
            cout<<char(ch);

            ch++;
        }

        ch--;

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

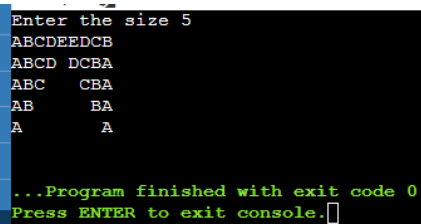
            cout<<" ";

        for(k=2;k<=i;k++)

            cout<<" ";

        for(j=size;j>i;j--)
```

```
{  
if( j==size-1 && i==0) //for leaving ch in first line  
continue;  
cout<<char(ch);  
ch--;  
}  
cout<<endl;  
ch=65;  
}  
return 0;  
}
```



The screenshot shows a console window with a black background and a blue vertical bar on the left. The text is displayed in a monospaced font. The output of the program is as follows:

```
Enter the size 5  
ABCDEEDCB  
ABCD DCBA  
ABC CBA  
AB BA  
A A  
...Program finished with exit code 0  
Press ENTER to exit console.
```