

Homework 1#: Guess the run-time output

```
02_homework1.cpp
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<"\n\nGuess the "
7         <<"output\n---\n";
8
9     cout<<10+20-5<<endl;
10    cout<<"14/2"<<"\n";
11    cout<<17-10<<"\n";
12    cout<<"endl";
13    cout<<"\nPractice makes perfect";
14
15    //cout<<"The way to get started is to quit talking and begin doing";
16
17    return 0;
18
19    cout<<"\n\nBye\n\n";
20 }
21
```

- Pass over the code line by line
- Execute the line
- What is the output of this code?

Answer:

Guess the output

25

14/2

7

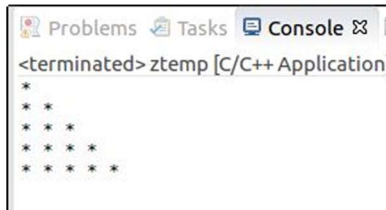
endl

Practice makes perfect

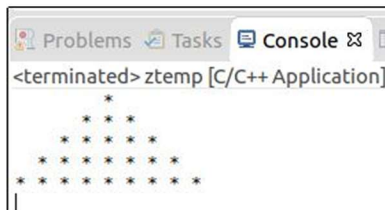
note

return 0; will end the program so any line after will be not executed

Homework 2#: Write code to print the following



```
<terminated> ztemp [C/C++ Application]
*
* *
* * *
* * * *
* * * * *
```

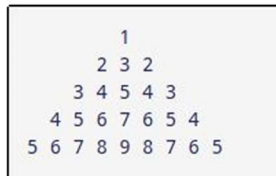


```
<terminated> ztemp [C/C++ Application]
      *
     * *
    * * *
   * * * *
  * * * * *
 * * * * *
* * * * *
```

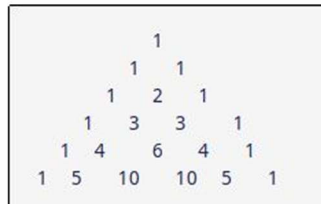
- Write a code to each output



```
*
* *
* * *
* * * *
* * * *
* * * *
*
```



```
      1
     2 3 2
    3 4 5 4 3
   4 5 6 7 6 5 4
  5 6 7 8 9 8 7 6 5
```



```
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
 1 5 10 10 5 1
```

Figure 1 :

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

int main ()
{
    int n = 6 ;

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

        cout << endl;
    }

    return 0 ;
}
```

Figure 2 :

```
#include <iostream>

using namespace std ;

int main ()
{
    int n = 6 ;

    for (int i = 1; i <= n ; i++)
    {
        for (int j = 1; j <= n-i ; j++)
        {
            cout << " " ;
        }
        for (int j = 1; j <= (2 * i-1) ; j++)
        {
            cout << "*" ;
        }

        cout << endl;

    }

    return 0 ;
}
```

Figure 3 :

```
#include <iostream>

using namespace std ;

int main ()
{
    int n = 3 ;

    for (int i = 1; i <= n ; i++)
    {
        for (int j = 1; j <= n-i ; j++)
        {
            cout << " " ;
        }
        for (int j = 1; j <= (2 * i-1) ; j++)
        {
            cout << "*" ;
        }

        cout << endl;
    }

    for (int i = n-1 ; i >= 1 ; i--)
    {
        for (int j = 1; j <= n-i ; j++)
        {
            cout << " " ;
        }
        for (int j = 1; j <= (2 * i-1) ; j++)
        {
            cout << "*" ;
        }

        cout << endl;
    }
}
```

Figure 4 :

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

int main ()
{
    int n = 5 ;

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

        for (int j = i; j <= 2 * i-1 ; j++)
        {
            cout << j << " ";
        }

        for (int j = 2 * i-2 ; j >= i ; j--)
        {
            cout << j << " ";
        }

        cout << endl;
    }

    return 0 ;
}
```