



Lesson 13 CPP Practice 3

We have done more than one program about the star triangle, and in this lesson we want to add something new, which is to be an isosceles triangle

As follows :

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

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

```
int main() {
while (1) {
string s;
int n, y = 1;
cout << "Please enter a number: ";
cin >> n;
```



```
int x = n;
```

```
for (int i = 0; i < n; i++) {
```

```
    //printing lines
```

```
    for (int j = x - 1; j > 0; --j)
```

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

```
    //printing spaces
```

```
    for (int k = 1; k <= y; k++)
```

```
        cout << "*";
```

```
    //printing stars
```

```
    --x;
```

```
    y += 2;
```

```
    cout << "\n";
```

```
}
```

```
}
```

```
}
```

Now using the **substr(x)** :

```
#include <iostream>
```

```
#include <string>
```

```
using namespace std;
```

```
int main() {
```



```
int n;  
cout << "Please enter a number: ";  
cin >> n;  
string stars = "*", spaces = "";  
for (int i = 0; i < n - 1; i++)  
    spaces += " ";  
for (int i = 0; i < n; i++) {  
    cout << spaces.substr(i) << stars << endl;  
    stars += "**";  
}  
}
```

input:

4

output:

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