

Practice problems on loops and nested loops: Write C++ programs to produce the output described in each of the following problems.

(1) A triangle of stars (the user supplies the height):

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

(2) Another triangle of stars (the user supplies the height)

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

(3) Another triangle of stars (the user supplies the height)

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

(4) A double rectangle of stars (the user supplies height and width)

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

(5) A table of powers of 2 (user supplies the number)

```
2 to the power 0 is 1  
2 to the power 1 is 2  
2 to the power 2 is 4  
2 to the power 3 is 8
```

(6) A table of factorials (user supplies the number)

```
1! = 1 = 1  
2! = 2 x 1 = 2  
3! = 3 x 2 x 1 = 6  
4! = 4 x 3 x 2 x 1 = 24  
5! = 5 x 4 x 3 x 2 x 1 = 120
```