

Pattern lab  
CSCI 2270  
Fall 2014

Examine this fractal pattern of asterisks and blanks, and write a recursive method that can generate patterns such as this:

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

With recursive thinking, the method needs only seven or eight lines of code (including two recursive calls). Your method should look like this:

```
void pattern(ostream& outs, int n, int i)
// Precondition: n is a power of 2 greater than zero.
// Postcondition: A pattern based on the above example has been
// printed. The longest line of the pattern has
// n stars beginning in column i of the output. For example,
// the above pattern is produced by the call pattern(8, 0).
Hints: You do not need to check the precondition. Think about how the pattern is a
fractal. Can you find two smaller versions of the pattern within the large pattern? Here is
some code that may be useful within your method:
```

```
// A loop to print exactly i spaces:
for (k = 0; k < i; k++) outs << " ";
```