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1  // Matthew Bowker, CS3060-001, Assignment #1 Problem 5.24
2
3  #include <iostream>
4  #include <string>
5
6  using namespace std;
7
8  string genIndividualRows(int rowNum) {
9      string buffer;
10     (rowNum == 10) ? buffer = buffer + "*" : buffer = buffer + " ";
11     (9 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
12     (8 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
13     (7 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
14     (6 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
15     (5 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
16     (4 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
17     (3 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
18     (2 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
19     (1 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
20     (2 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
21     (3 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
22     (4 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
23     (5 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
24     (6 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
25     (7 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
26     (8 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
27     (9 <= rowNum && rowNum <= 10) ? buffer = buffer + "*" : buffer = buffer + " ";
28     (rowNum == 10) ? buffer = buffer + "*" : buffer = buffer + " ";
29
30     return buffer;
31 }
32
33 void genStars(int rows) {
34     int finalRows;
35     int i;
36
37     i = 0;
38
39     finalRows = rows;
40
41     rows = rows - 1;
42     rows = rows / 2;
43
44     finalRows = finalRows - rows;
45
46     while (i < rows) {
47         i++;
48         cout << genIndividualRows(i) << endl;
49     }
50
51     cout << genIndividualRows(finalRows) << endl;
52
53     while (i > 0) {
54         cout << genIndividualRows(i) << endl;

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55         i--;  
56     }  
57 }  
58  
59 int main()  
60 {  
61     int numRows;  
62     cout << "Please enter the number of rows of stars you would like (between 1 and 19,  
        odd numbers only): ";  
63     cin >> numRows;  
64  
65     if (numRows < 1 || numRows > 19) {  
66         cout << "Sorry, that number won't work for me. " << endl;  
67         return 1;  
68     }  
69  
70     if ((numRows % 2) != 1) {  
71         cout << "That's not an odd number, bro! Try again please." << endl;  
72         return 1;  
73     }  
74  
75     genStars(numRows);  
76  
77     return 0;  
78 }  
79
```