Homework #3 – Drawing Shapes

DUE: September 24 by 11:59:59 PM   **Assigned**: September 17

Background
Write a program that draws shapes to the terminal while observing certain restrictions.

Assignment Requirements
- The name of your source code file shall be `hw03.cpp`
- The program takes no input
- For each shape, the following `std::cout` expressions may only appear once:
  - `std::cout << '#'`
  - `std::cout << ' '`
  - `std::cout << '\n'`
- Place two blank lines between each shape
  - NOTE: The restriction above does not apply to this requirement
- The program output must look exactly like that found in the sample run
- REMINDER: Discussion of the problem is always acceptable; sharing code is considered academic dishonesty

Sample Run
```
########
 ######
  ####
   ##


    #
   # #
  #   #
 #     #
  #   #
   # #
    #


#       #
 #     #
  #   #
   # #
    #
   # #
  #   #
 #     #
#       #
```

```
#######
#     #
#     #
#     #
#######
```

Hints

- Make a plan first, the code will write itself
- What *exactly* needs to be printed to the screen?
- What should the overall structure of the code look like to draw a shape?
- For each shape, look for a pattern
- Can I alter my counting range to my benefit?
- The library `<cstdlib>` contains an absolute value function, `int std::abs(int)`

Reminders

- Be sure to include a comment block at the top of every file with the required information
    - Refer to the General Homework Requirements handout on Blackboard
- Provide meaningful comments
    - If you think a comment is redundant, it probably is
    - If you think a comment is helpful, it probably is
    - Remember that you are writing comments for other programmers, not people who know nothing (obligatory Jon Snow) about coding
    - Comments are more helpful when they explain why, not what or how
- There will be no extensions

Preparing and Submitting

- Your code must be able to compile and run on the EECS lab machines
    - You are responsible for testing your code
    - "But it runs fine on my machine!" will **not** earn you any points
- Submit **ONLY** your source code file
- Homework submission will be handled exclusively through Blackboard