CIS 1068 Assignment 3
Draw a Pretty Picture

Due: Tuesday, February 1

40 points

This assignment will provide you with practice using loops, nested loops and class constants.

Program Description

You will write a Java class called AsciiArt that must be saved into a file called AsciiArt.java. You should submit this file through Canvas. 'ASCII' stands for American Standard Code for Information Interchange, and is the original standard for converting binary numbers into English characters on the screen. If you're interested, see the Wikipedia ASCII article for more information.

In this assignment, your task is to draw something using ASCII art, subject to a few constraints. Please feel free to use your imagination as much (or as little) as you like. You can draw something creative and original, or stick to the kinds of shapes we've been talking about in class. Your program doesn't even have to create something representational, but it could be something as advanced as the Statue of Liberty or Seattle's Space Needle.

Here are the constraints on your program:

- Your program must use class constants (e.g., `static final int SIZE=10`) in place of any numeric constants (except for 0 and 1), and in place of any character constants.
- Your program must use at least 3 nested loops.
- At least one of the three must be a doubly-nested loop (a for loop inside a for loop inside a for loop).
- Finally, your program should have a class constant called `SIZE` such that if the we change its value, the entire size of your drawing will change proportionately. For instance, if your program produces a drawing that's 100 characters wide and 200 long when `SIZE` = 10, and if we change `SIZE` to 5 (and make NO other changes), it should produce something about 50 characters wide and 100 characters long. If we change the `SIZE` to 20, it should produce something like 200 characters wide and 400 characters long, and so on. You may include a comment that specifies what ranges of values constitute valid values for this `SIZE` constant, but it should be a nontrivial range (that is, don't say that it only works for `SIZE` = 6, or something like that).

  We're not going to be hung up on how exactly changes to `SIZE` should affect your drawing. The point is that if `SIZE` goes up, your picture is larger and vice versa.

You should properly indent your code and use whitespace to make your program readable. Give meaningful names to variables in your code. Follow Java's naming and capitalization standards.

Include a comment at the beginning of your program with basic information and a description of the program.

Extra Credit: The Linc (parking lot and stadium)

In celebration of the upcoming Super Bowl for a maximum 10 points of extra credit, you may try to reproduce the ASCII Art shown below of Lincoln Stadium, home of the Philadelphia Eagles. You should still include a class constant for the `SIZE`; in Dr. Yates' implementation, the `SIZE` value that produces the picture below is 4, and works for any size >= 2. You must include loops and nested loops to make this work correctly; you CANNOT simply include a separate println statement for each line of the drawing. You will get the full extra credit points only if you duplicate the drawing EXACTLY. (Note: this is a fairly tricky figure to do right.) The parking lot alone is worth a maximum of 2 points.