

# CIS 1068 Assignment 3

## Draw a Pretty Picture

Due: Monday, September 25

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 Blackboard. '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 pretty 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. One potentially fun way to do this is to produce stylized representations of well-known shapes, like 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 these loops must be a doubly-nested loop (a for loop inside a for loop inside a for loop).
- Finally, your program should have one class constant called `SIZE` such that if we change the value of this constant, the entire size of your drawing will change proportionately. For instance, if your program produces a drawing of 100 characters wide and 200 long when `SIZE = 10`, then if we change `SIZE` to 5 (and makes NO other changes), it should produce something 50 characters wide and 100 characters long. If we change the `SIZE` to 20, it should produce something 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).

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)

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 constant for the `SIZE`; in Dr. Yates' implementation, the `SIZE` value that produces the picture below is 4, and works for any size  $\geq 2$ . 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.

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