CS 101 -- Section 3 -- *Info Representation and more Processing*

Since last section we have:

- Covered more processing. Talked about how to control transparency, draw custom shapes, control border styles, etc.
- Discussed binary, and how data is represented by a computer, such as text files and image files

In this section, we will do a few exercises that reinforce these concepts.

(1) As we have discussed in lecture, computers store everything (including text) as binary. In order to do so, each letter/character is assigned a number that "represents" it. In this problem, you will convert text to the numeric representation that a computer would store it as. Convert each of the below words/sentences to both its **Decimal** and **Binary** representations. You can use the ASCII conversion table from the lecture slides to assist you.

A. `CAT`

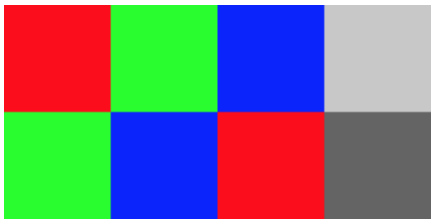
B. `Hello World!`

C. `One 2 THREE 4 five 5 Sev3n`

(2) We also talked about how the .BMP image format works in class this week. We went over some examples of how to create a BMP image using a text editor. To do so on the Mac lab machines:

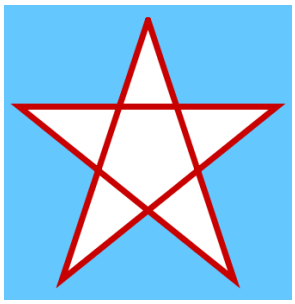
1. Open up the program TextEdit
2. Create a new file (File -> New) and name it example.bmp
3. Put the text of the image into the file
4. Make sure you are in “plain-text” mode (“Format” -> “Make Plain Text”)
5. Save it
6. Open it up!

Create .bmp image that looks like the following:

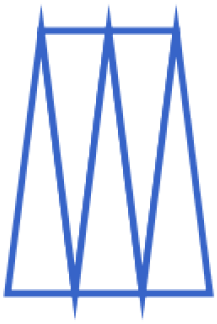


(3) Write a processing program that creates each of the below images/diagrams, using the custom shapes processing functions that we talked about in class.Recall the function names: **beginShape()**, **vertex()**, **endShape()**.

A.



B.



C.