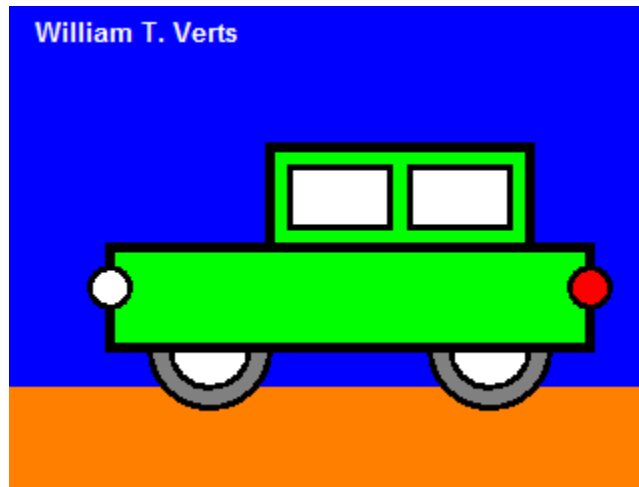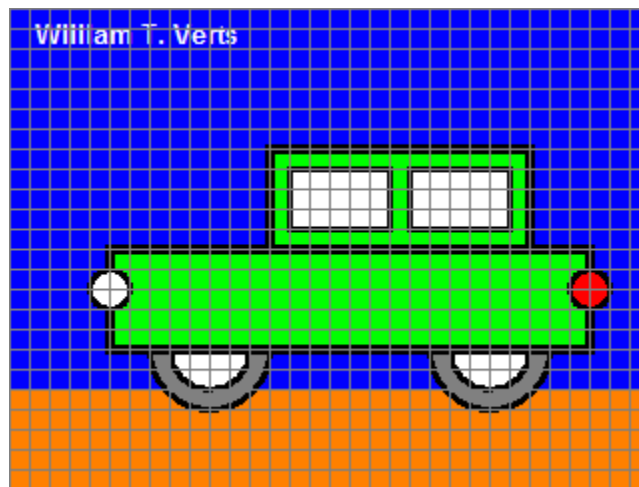# CMPSCI 120 Fall 2017
Extra Credit #2
Professor William T. Verts

Setting Up

In this assignment you are to create an SVG (Scalable Vector Graphics) file. You will not be required to create a separate Web page – we will be able to check the SVG file directly. As you know, an SVG file is a text file that describes a graphic image. It has a specific XML format to follow that is similar to HTML. The image that you are to create is that of a simple car, made up entirely of rectangles and circles and one line of text, as shown below:

Here is the same image, showing a 10×10 grid laid over top so you can figure out the coordinates of all the objects:

All items are on a 10-pixel boundary. For example, the small white circle that represents the head light is at coordinates <50,140> with a radius of 10 pixels and a **stroke-width** (thickness of the surrounding circle) of 3 pixels.

Specifics

1. The image is 320 pixels wide by 240 pixels tall.
2. The **fill** color of the sky is blue.
3. The **fill** color of the ground is **#FF8000** (dark orange).
4. The **fill** color of the car body is lime.
5. The **fill** color of the tail light is red.
6. The **fill** color of the head light is white.
7. The **fill** color of the windows is white.
8. The **fill** color of the hubcaps is white.
9. The **fill** color of the tires is **#808080** (a medium gray).
10. The **fill** color of the text is white.
11. All **stroke** colors are black.
12. All **stroke-width** values are either 3 (thin lines) or 5 (thick lines).
13. You must use your own name instead of mine in the image.
14. Your name must appear in the upper-left corner of the image, but you may adjusts its location slightly for a good appearance. A few pixels either way won't matter.

Using any (manual) technique you know, create a file called **car.svg** in your **public_html/cmpsci120** folder. That is, you may use emacs on UNIX to create the SVG file directly, you may create the file in a text editor on your local computer and FTP it over to the server, or you may write a Python program on the server to create the file under program control.

Hints

The Computer Science Companion (3RD edition) can be a <u>lot</u> of help for this assignment. In particular, please refer to pages 194-197 for the specifics of the SVG file format.

For those feeling a bit more adventuresome, refer to pages 278-279 for help on how to write a Python program to create SVG files. If you do this, don't forget the **#!/usr/bin/python** statement as line #1. In the **Main** program on page 279 you should replace the first line of code with the statement **Filename = "car.svg"** instead of the Windows filename shown there. Finally, add a new statement <u>after</u> the final **return**, starting in column #1, saying simply **Main()** (as the very last line of the program); this will start the program running when you load it in UNIX.

What To Turn In

When your image is correct, send an email to the **literacy@cs.umass.edu** account. The subject line must be set to the exact phrase **CMPSCI 120 EXTRA CREDIT ASSIGNMENT #2**, and the body of the message must contain your name, your username, and your fully specified URL: **http://elsrv3.cs.umass.edu/~_____/cmpsci120/car.svg** (with your own user name in the blank). We will grade the assignment based on whether the SVG image can be displayed, and on how closely you follow the directions. You will lose points for any geometry in the wrong place or any incorrect colors. You will receive NO CREDIT if your name isn't part of the SVG file.

Grading

If we can link to your `car.svg` file at all, you will start with 10 extra credit points. The following infractions will reduce that score:

A: -10 for significant syntax errors preventing the image from being rendered in a browser

B: -8 for minor syntax errors preventing the image from being rendered in a browser

C: -8 Use of any third party SVG generator program (other than student-written Python)

D: -1…-5 Minor errors in attributes causing appearance to be incorrect

E: -10 for no student name in the image (name must be present!)

F: -1 Wrong size (not 320×240)

G: -1 File exists but not claimed (no email)