Python – May 25 lab

In today’s lab we will practice with creating images!

1. First, we need to download and install the Python Imaging Library (PIL). We can take it from www.pythonware.com. Look for the most recent Windows release. You will find an .exe file which you can open to install the library. If this does not work for you, then I can show you how to copy the PIL folder from the file server.

Once you have PIL installed, be sure you can run my example program image.py. Uncomment the code that created the blue square. Modify this program so that it produces 2 image files, one with the blue square and one with the vertical stripes.

1. Let’s create a 3rd image. This time, write a nested loop using x and y as your horizontal and vertical pixel values that range across the entire image, just like before. But this time, the body of the loop will say: image.putpixel((x,y),((x+y)%255,0,0)). What do you think this will show? Can you explain the color pattern that you see in the image?
2. Open a new Python source file. Use the image creation techniques you’ve seen to make some flags. Let’s choose patterns that are geometrically straightforward, such as lines and circles. Most flags are rectangular with aspect ratios of either 3:2 or 2:1. So, let’s use dimensions like 600x400 or 800x400. We’d like our images large enough to admire but small enough to fit on the screen. Try these flags:
   1. Poland
   2. France
   3. Czech Republic
   4. Japan
   5. Scotland, which is a good warm up for…
   6. UK
   7. Finally, look at the marine signal flags on http://www.anbg.gov.au/flags/signal-flags.html. Create an image that shows your name spelled out using these signals. The individual flags should be displayed vertically.
3. Once you are done with the images, please work on the pretty parenthesizer problem from the previous lab.
4. Reminder: homework is due tomorrow. See the last question from the previous lab on scheduling students into sections based on their top preferences.