

CIS 441/541: Project #1A Due 11:59pm September 30th, 2016
(which means 6am October 1st)

Worth 2% of your grade

Setup:

- 1) Download and install CMake. Use version 2.8.12.1 or higher
- 2) Download, build, and install VTK. Use version 6.X.
- 3) Make directory called "project1A"
- 4) Download file project1A.cxx and CMakeLists.txt from class website and copy them into directory project1A
- 5) Run CMake. This will create build files.
- 6) Compile the program. For Unix/Mac, this means "make"
- 7) Run the program.
- 8) It should output an image that is 1024x1024 called oneRedPixel.png. The first pixel of the file should be red (although that might be hard to eyeball)

Assignment:

- 1) You are to make an image that is 1024x1350.
 - a. The image will be broken into 27 horizontal strips, with each strip of 50 pixels
- 2) The color for the Xth strip should be:
 - a. $X \% 3 = 0 \rightarrow B=0$
 - b. $X \% 3 = 1 \rightarrow B=128$
 - c. $X \% 3 = 2 \rightarrow B=255$
 - d. $(X/3) \% 3 = 0 \rightarrow G = 0$
 - e. $(X/3) \% 3 = 1 \rightarrow G=128$
 - f. $(X/3) \% 3 = 2 \rightarrow G=255$
 - g. $X/9 = 0 \rightarrow R=0$
 - h. $X/9 = 1 \rightarrow R=128$
 - i. $X/9 = 2 \rightarrow R=255$
- 3) Examples
 - a. The first strip (which is at the beginning of the image buffer and at the bottom of the image) is to be black. $R=0, G=0, B=0$
 - b. The strip immediately above that should be dark blue, $R=0, G=0, B=255$
 - c. Above that should be bright blue $R=0, G=0, B=255$
 - d. Above that should be dark green, $R=0, G=128, B=0$

The correct answer is located on the class website.

There is also an image differencer program on the class website. You can use that to verify that your image is correct. You should do this for this assignment.

When you are done, verify you have the correct image via the differencer. Then submit the following:

- (1) your source code
- (2) a screen capture showing the output of differencer