FUNHOUSE MIRRORS

Lab 3 Worksheet

Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Typist:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Details**



***Show your winning score to your instructor for signature.***



***What are the decimal R, G, and B values for myColor? What are those values in 6-digit hexadecimal form, using 2 hex digits for each color?***

**Enhancing your Computer Science Knowledge**



***In the last 3 lines of “setPixel”, why is it important to use only names defined elsewhere in the function?***



***Print your copy of “lab3SetPixel.py” and attach the printout to the back of the worksheet.***

**Extending and Expanding:**



***Which quadrant of the picture is repeated 4 times?***



***Now which quadrant of the picture is repeated 4 times?***



***Call your instructor over to see the results of your new mirroring code, and make sure he/she signs on the line on the worksheet.***



***Print your copy of “lab3Mirrors.py” and attach the printout to the back of the worksheet.***



***Call your instructor over to see the results of your “layer” function, and make sure he/she signs on the line on the worksheet.***



***Print your copy of “lab3Scaling.py” and attach the printout to the back of the worksheet.***

**Reflection:**

Attach your typed answers to the back of the lab worksheet.

Image files and other data files are often shared over the internet using services such as Napster, BitTorrent, Kazaa, Gnutella, LimeWire, etc. Suppose you make your living creating things that can be represented digitally (pictures like those you created today, music, movies, computer programs, books, etc.). How would you feel if someone who bought something you spent a year creating were to make it available on a service such as Napster or LimeWire, for free? Discuss your reactions to this scenario, including your thoughts on whether you think this is a good or bad thing, what you might say to the person who made your work available for free, what you think should happen (if anything), and other aspects of the situation.



As we know, color pixels are represented by a 3-byte (24-bit) number. This doesn’t allow us to capture all possible colors, but for most purposes it’s “good enough”. Another example of when something approximate was considered “good enough” occurred with the infamous Y2K bug. It was a good example of how short-sighted assumptions about information representation can have costly and wide reaching effects. Software and hardware afflicted with the Y2K bug was expected to run incorrectly or even crash after December 31, 1999. So in anticipation of this problem, companies invested millions of dollars hiring computer scientists/engineers to fix it. Because the extent of the problem was not completely known, prior to the new year many people bought bottled water, firewood, and kept cash reserves at home in case things such as the water, power, and banking systems broke down.



Do a search on the internet to learn more about the Y2K bug. In your own words describe what you learn. Some questions you want to try to answer include: What does Y2K stand for? What is the Y2K bug and what caused it? What did people and companies do to prepare for it? What was the extent of the problem on Jan 1, 2000 and the weeks and months following that?