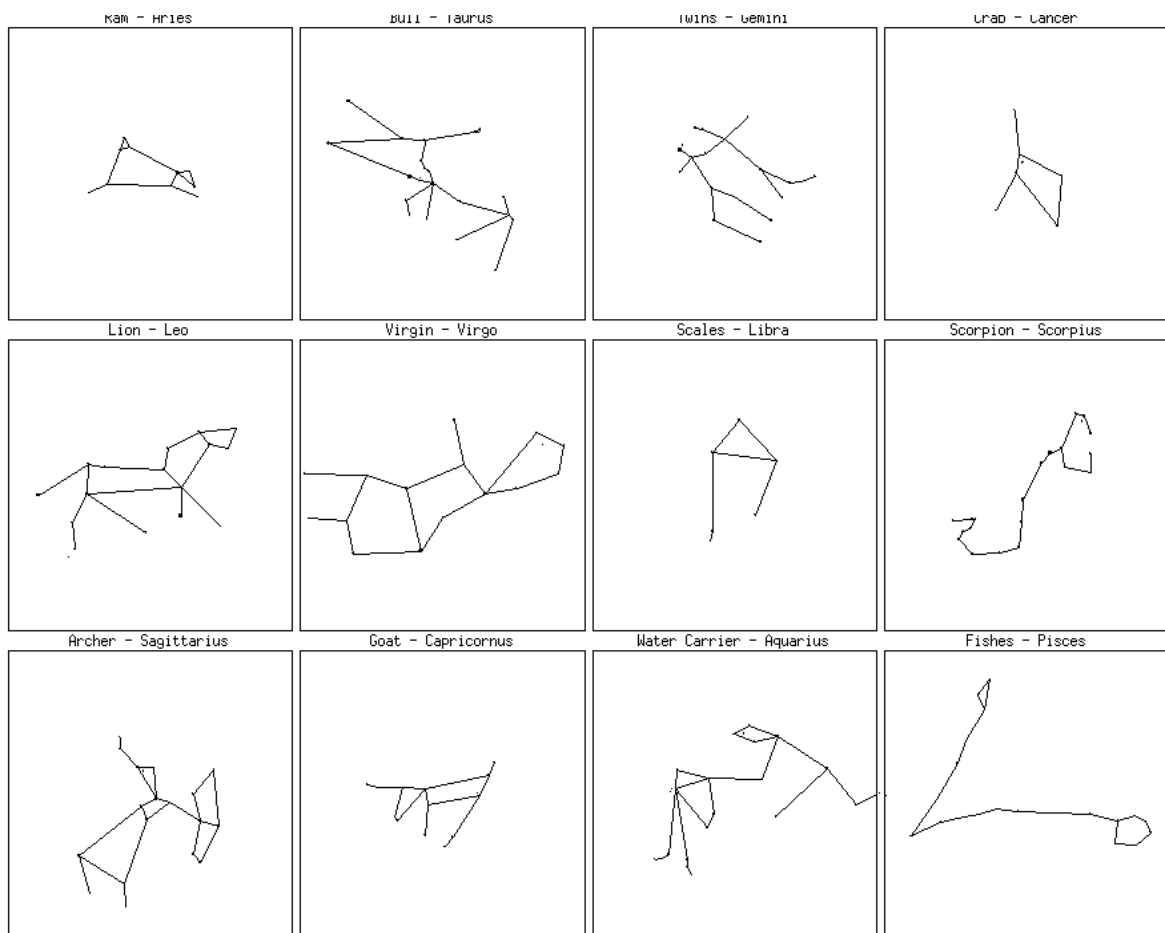


COMP612 – Computer Graphics

Programming Exercises # 1

These exercises are designed to give you practice rendering basic 2D objects, random numbers and colours. To attempt this set of exercises you need to read and understand the lecture notes and example code up to and including Unit 3 - Animation

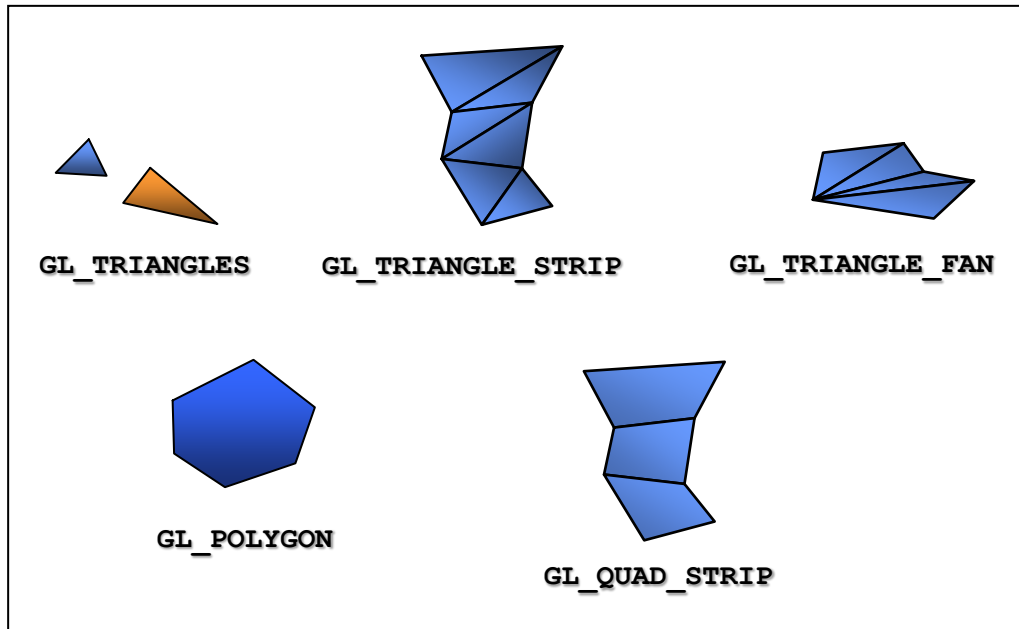
1. Draw 100 points with random colors (R, G, B) on the screen at random positions within the drawing area. Note: color values range from 0.0 to 1.0 in OpenGL. Hint: Take a look at the `java.util.*` package for a random number generators.
2. Draw the constellation that is associated with your star sign (birthday) using line strips and line loops. Draw it in your favourite colour and try to use as few vertices as you can¹:



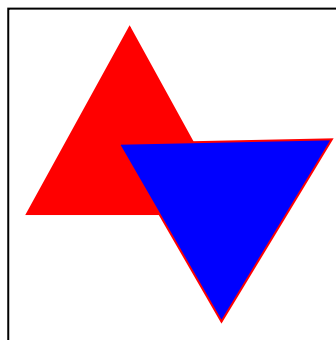
3. Draw a grid of 50 x 50 points. Hint: use two for loops.

¹ It's a good idea to buy some graph paper – it helps you plan out how to draw your objects and what the location specification should be.

4. Draw a grid made up of 10 vertical lines and 10 horizontal lines.
5. Draw the basic shapes shown below that we looked at in class. Try to match the sizes and positions as best you can. Note: you do not have to draw the words – we will cover that later.



6. Draw two triangles on top of each other, as they are shown below. Does it draw what you expect? Try reversing the order in which you draw the triangles. Does that have an effect?



7. Draw a non-convex polygon. What is the result?
8. Draw a non-simple polygon. What is the result?

****** If you finish these exercises early have a go at the exercises listed at the end of the “Unit 3-JOGL 2D Basics” lecture slides – you will need to read ahead in the lecture slides and in one of the recommended texts to do these exercises.