MTD215 - Exercise 4

Points	Task
[4]	In this exercise, you should design and implement a set of flags in OpenGL. One flag should be composed of multiple 2D shapes (e.g., rectangles, triangles, circles, lines, …). Pick at least 3 existing (e.g., national or state) flags of your choice and design 2 novel flags yourself. Create a sketch before starting the implementation. The **sketch** must be submitted electronically! The following example shows some possibilities: 
[8]	Each flag should be composed of 2D objects with sub-elements (e.g., stripes, stars, patterns). Note: simplify or leave out too complex objects (e.g., simplify a maple leaf or any animals). Use at least **four different shapes/primitives**, whereas three of them should appear more than once (however, with different transformations!). For the composition of translations, rotations, and scaling the commands `glPushMatrix()/glPopMatrix()` should be used at least three times. Can you also work without these commands? If so, draw **one flag twice: once with glPush/glPopMatrix and once without**.
[4]	Capsulate the actual drawing of different elements in **separate functions**, e.g. Shapes: `drawQuad(), drawCircle()`, etc. Objects: `drawObject()`, etc.
[4]	In addition to the basic OpenGL primitives, you should also use a **circle shape** for drawing an element. Please find out how to do this efficiently.
[4]	Use at least **three different colors** for the flags.