1 Getting Started

# 1.1 OpenGL

<https://learnopengl.com/Getting-started/OpenGL>

OpenGL used to use **immediate mode** with a **fixed function pipeline**.

Nowadays we use the **core-profile** mode which is **more efficient**.

OpenGL is a **state machine**: a collection of variables that define how it should currently operate.

Setting up **objects** usually has the following structure:

| *// Create object* unsigned int objectId = 0; glGenObject(1, &objectId);  *// Bind object to context* glBindObject(GL\_WINDOW\_TARGET, objectId);  *// Set options of object currently bound to GL\_WINDOW\_TARGET* glSetObjectOption(GL\_WINDOW\_TARGET, GL\_OPTION\_WINDOW\_WIDTH, 800); glSetObjectOption(GL\_WINDOW\_TARGET, GL\_OPTION\_WINDOW\_HEIGHT, 600);  *// set context target back to default* glBindObject(GL\_WINDOW\_TARGET, 0); |
| --- |

# 1.3 Hello Window

<https://learnopengl.com/Getting-started/Hello-Window>

### Viewport

We can tell OpenGL the size of the rendering window so it knows how to display the data and coordinates with respect to the window:

| *// First two coordinates specify bottom-left corner of viewport.* glViewport(0, 0, 800, 600); |
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### Ready Your Engines

glutSwapBuffers will swap the colour buffer containing colour values for each pixel in the window.

Double buffer:

When drawing with a single buffer, the resulting image might display flickering issues. This is because the resulting image is not drawn in an instant