**Mason Sanders – Graphics Primitives Documentation**

**What is the project?**

My project, written using Java graphics primitives, shows up as a simple cube at first, with text in the top left corner that reads “CUBE.” Of course, this isn’t actually a cube nor is it 3D. I used Path2D in Java to create 3 different parallelograms that sit together to form a regular hexagon, and because I give the parallelograms different colors, they look like a cube. The cube also has some interactivity. As you move your mouse over the JFrame, the colors change. The colors change in a way that the hue is increased when the mouse is moving. I did this by converting from RGB to HSB, incrementing the hue value only, then assigning the resulting color as the new color for the parallelogram. In addition, when the user clicks the mouse, colors are changed randomly. Random color assignment also happens when the program is first executed. Another feature the project has is the ability to deform the cube with the arrow keys. All this does is change the variables that control the drawing of the parallelogram using Path2D.

**Lessons Learned:**

By completing this project I’ve become better acquainted with both Java and creating simple graphics. Learning about Path2D helped me tremendously when creating parallelograms and other shapes that I couldn’t make as easily without it. I also learned plenty about the Color class, and how it’s not limited to just RGB, and not even limited to HSB either, and that it can be used with many different types of color spaces.

**To run:**

I personally compiled this on Java 17, but older versions of Java should work fine.

Compile with: make all

Run with: make run