Some basic 3d shapes

Here are the **Vertex Buffer**, **Index Buffer**, and **Color Buffer** for the following 3D shapes

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🔷 CUBOID

(A box with dimensions: width = 2, height = 1, depth = 1.5)

Vertex Buffer

```
[-1, -0.5, -0.75]
[1, -0.5, -0.75]
[1, 0.5, -0.75]
[-1, 0.5, -0.75]
[-1, -0.5, 0.75]
[1, -0.5, 0.75]
[1, 0.5, 0.75]
[-1, 0.5, 0.75]
```

Index Buffer

```
[0, 1, 2]
[0, 2, 3]
[4, 6, 5]
[4, 7, 6]
[0, 4, 5]
[0, 5, 1]
[1, 5, 6]
[1, 6, 2]
[2, 6, 7]
[2, 7, 3]
[3, 7, 4]
[3, 4, 0]
```

Color Buffer

```
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
```

🔷 CUBE

(Side length = 2)

Vertex Buffer

```
[-1, -1, -1]
[1, -1, -1]
[1, 1, -1]
[-1, 1, -1]
[-1, -1, 1]
[1, -1, 1]
```

```
[1, 1, 1]
[-1, 1, 1]
```

Index Buffer

```
[0, 1, 2]
[0, 2, 3]
[4, 6, 5]
[4, 7, 6]
[0, 4, 5]
[0, 5, 1]
[1, 5, 6]
[1, 6, 2]
[2, 6, 7]
[2, 7, 3]
[3, 7, 4]
[3, 4, 0]
```

Color Buffer

```
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
```

◆ CONE

(Base radius = 1, height = 2, centered at origin)

Vertex Buffer

```
[0, 1, 0]
[1, -1, 0]
[0.707, -1, 0.707]
[0, -1, 1]
[-0.707, -1, 0.707]
[-1, -1, 0]
[-0.707, -1, -0.707]
[0, -1, -1]
[0.707, -1, -0.707]
```

Index Buffer

```
[0, 1, 2]
[0, 2, 3]
[0, 3, 4]
[0, 4, 5]
[0, 5, 6]
[0, 6, 7]
[0, 7, 8]
[0, 8, 1]
[1, 8, 7]
[1, 7, 6]
[1, 6, 5]
[1, 5, 4]
```

```
[1, 4, 3]
[1, 3, 2]
```

Color Buffer

```
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
```

◆ RECTANGULAR PRISM

(Width = 2, Height = 3, Depth = 1)

Vertex Buffer

```
[-1, -1.5, -0.5]
[1, -1.5, -0.5]
[1, 1.5, -0.5]
[-1, 1.5, -0.5]
[-1, -1.5, 0.5]
[1, -1.5, 0.5]
[1, 1.5, 0.5]
[-1, 1.5, 0.5]
```

Index Buffer

```
[0, 1, 2]
[0, 2, 3]
[4, 6, 5]
[4, 7, 6]
[0, 4, 5]
[0, 5, 1]
[1, 5, 6]
[1, 6, 2]
[2, 6, 7]
[2, 7, 3]
[3, 7, 4]
[3, 4, 0]
```

Color Buffer

```
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
[255, 255, 255, 255]
```