Lecture 3: Graphics Pipeline and Rasterization – Review Questions

- Sketch the graphics pipeline and describe each step
- How is color represented for each pixel in an image?
- What is gamma correction? How does input intensity of a pixel map to displayed intensity on a monitor? Why is this function nonlinear?
- Describe the basic idea behind using the z-buffer for hidden surface removal.
- How can you use the alpha channel to blend colors of partially transparent objects?
    - Bonus: How can you make this work correctly if there are many partially transparent objects one on top of another? (Hint: rendering order matters.)
- How can we use the implicit equation for a line to compute barycentric coordinates?
- How can we make use of barycentric coordinates to rasterize a triangle, using Gouraud shading?
- How can we rasterize a line using the parametric equation for a line, considering all cases?
- How can we do simple antialiasing of a line using a box filter?