

CISC 4391
Assignment 1 (30 Pts)

Due at 10:00 PM Central (MyCampus)

- I. Topics: Java and the FANG game engine:
 1. Complete the following exercises under Review 3.2 (79)
 - **Exercises a, b, c, e, f, g**
 2. Complete the following programming problems (p89)
 - **3.1 , 3.2, 3.3, 3.4, 3.5**

- II. Topics: History of graphics, image formation, models and architecture.
 1. In class, we briefly talked about the pipeline approach to image generation; what are the advantages and disadvantages of using such an approach?
 2. The memory in a frame buffer must be fast enough to allow the display to be refreshed at a rate sufficiently high to avoid flicker. Normally, a workstation display has a resolution of 1280 x 1024 pixels. If it is refreshed 72 times per second, how fast must the memory be? In other words, how much time can we take to read one pixel from memory? What is this number for a 480 x 640 display that operates at 60 Hz but is interlaced?
 3. Consider the design of a two dimensional graphical API for a specific application, such as for VSLI design. List all the primitives and attributes that you would include in your system.
 4. In Hollywood, movies are typically produced on a 35-mm film that has a resolution of approximately 2000 x 3000 pixels. What implication does this resolution have for producing animated images for television as compared with film?
 5. List two elements of image formation.