CSE 5392-016 Lab 1

Due February 17

Goals:

1. Understanding of basic primitives.

2. Understanding of PostScript.

Requirements:

1. Given several instances, each with the two endpoints of a segment in 3-D and the three vertices of a triangle, determine the intersection, if any, in each case.

    a. The basic output will be a success/failure indication (binary) and the intersecting interval of the input segment. (Once your program is working this may be placed as text at the bottom of a PostScript page.)

    b. Your output page will coincide with the plane containing the triangle. Use a dot to show the position of the normal vector that is perpendicular to the plane and goes through the origin (0, 0, 0). The original segment is projected onto the plane. The intersection may be empty, a single point, or an interval (if the segment is in the plane).

2. Send your program (as an attachment) to `weems@uta.edu` by 5:15 pm on February 17. Please provide details on using your program.

3. In addition to sending your program, have another attachment that contains at least five test cases.

Getting Started:

1. The code on pages 224-238 of O'Rourke is very useful and may be used in your code. This code is included in the files `segseg.c` and `inhedron.c`.

2. The input will be integers.

3. You may work in groups of no more than three students. Be sure to identify each member's contribution.

4. `InPlane()` will work a bit differently than described in O'Rourke.