CS3241 Tutorial 4
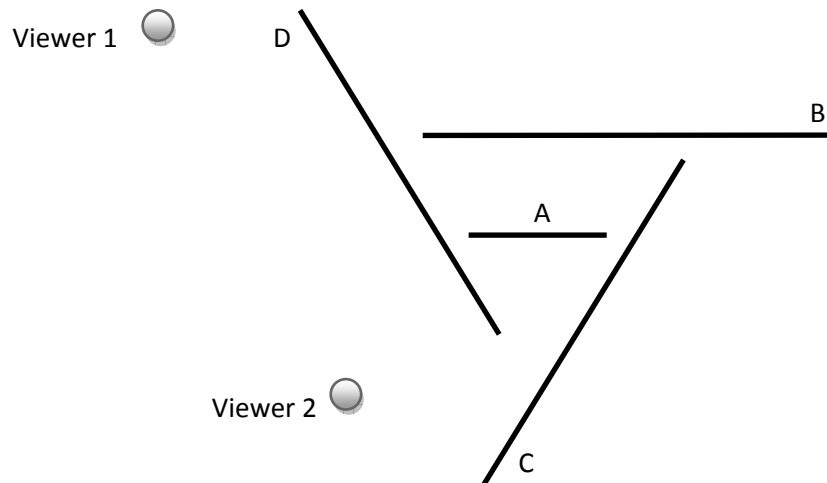
1. The following diagram is the cross section of a set of polygons in 3D space.

   a. Construct their BSP tree, in the priority of A > B > C > D. Draw construction lines to help you in the diagram.

   b. The two dots are the positions of Viewers 1 and 2. Give the order of polygons drawn in the BSP tree when you view from the two positions.

2. An object (the cross section) is placed at the 3D space like the figure below (meaning, each line segment is the cross section of a polygon/face). The camera is at the origin.
    a. What is the normal vector for each polygon?
    b. Please determine which faces of the object will or will not be displaced by back face culling by **<u>vector calculations</u>**.