PROGRAMMING PROJECT ONE
CS480/580 Introduction to Computer Graphics

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Office Hours: Tuesday/Thursday: 7:15-8:15p.m.;
Wednesday: 11am-12noon

Due Date February 27th, 2007. Demo Dates: February 22-March 1, 2007. 5% of the total grade for CS480 students / 5% of the total grade for CS580 students

This project deals with defining primitives, placing them at different locations, and viewing them. There are two objects to be created – a checker board patterned floor, and a table with four legs and nine joints. The joints are shown as A-I in the Figure on the next page.

Use a file to read these objects. The table consists of a table-top, and four legs. Each leg consists of an upper (upper_leg) and a lower (lower_leg) leg. The table-top has two distinct parts: front and back. There are two legs attached to the front part of the table top, and two legs are attached to the back part of the table top. So there are a total of ten parts to the table, and nine joints. Use different colors for all the parts. All the ten parts of the table can be considered as different sized rectangular parallelepipeds (or boxes). Thus the a unit cube could be scaled and translated to model each part. The scaling and translating parameters can be specified in the data file, as shown in the shape file in Figure 1.

Next, provide two windows showing the scene from two different angles. The dimension of the table, and the checker board pattern is to be selected by you. If you are planning to use one window, then use rotation of the table to creat multiple views in the same window.

Once the assignment is done, please arrange a time during the office hours for a demonstration of the project. I will post the sign up sheet at my office door (EN 180) for project demonstrations during the week of February 22-March 1st, 2007. You can show the demonstration earlier also during the office hours.

Good luck. If you have any questions, please let me know.
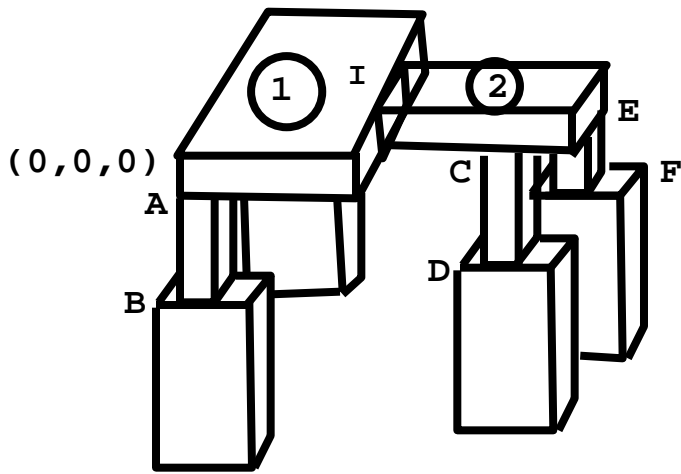
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shape_file:

10
1      1.5   .2   0 0 0   0 0   0
1.2     .5   .2   0 0 0   1 .3  0
● ● ●
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G, H joints are not visible

Figure 1: Shows a table (or insect) which can be defined using a shape file
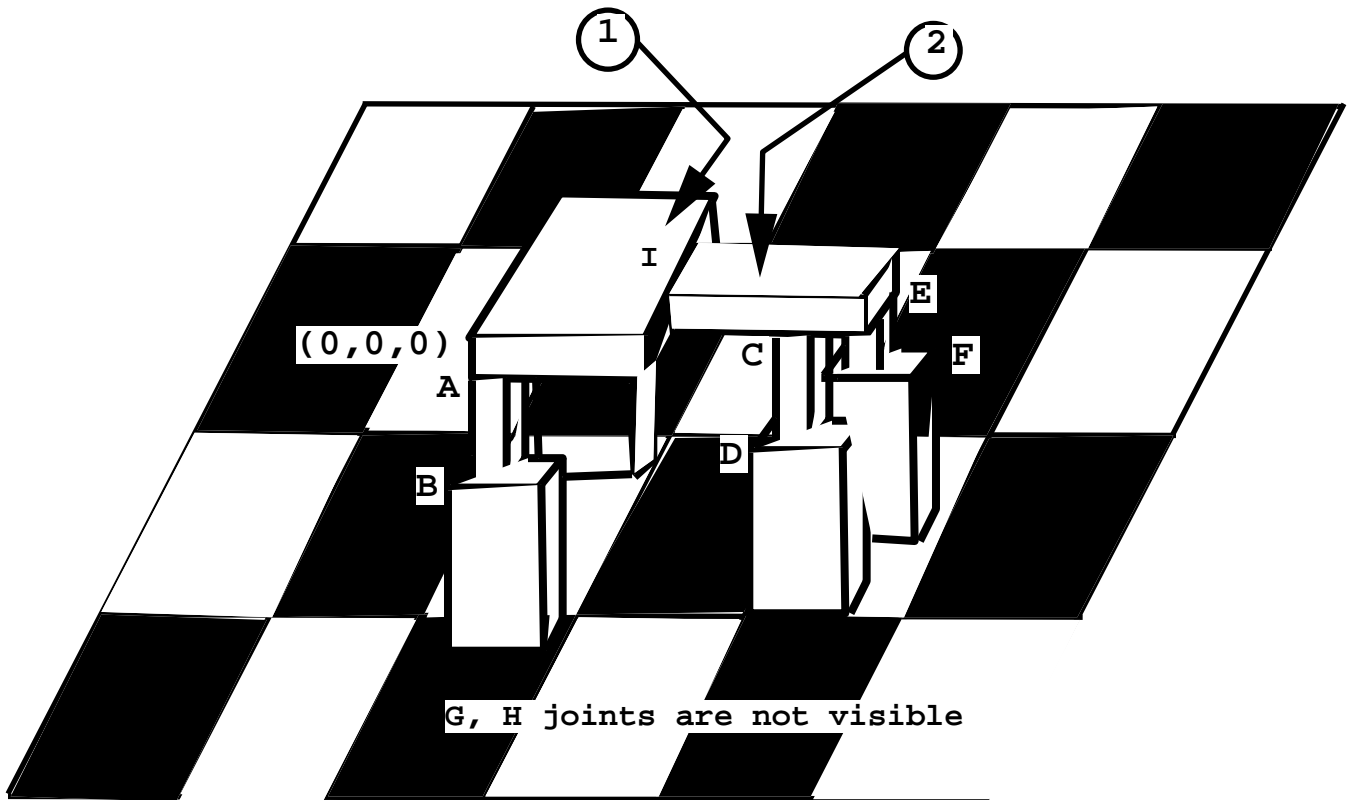

G, H joints are not visible

Figure 2: Shows a table (or insect) on a checkerboard floor. The table can be defined using a relative coordinate system