Programming Project One

Introduction to Computer Graphics CS4800/5800

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Programming Assignment One: Due Date October 3rd, 2019. Demo Dates: September 17th-October 8th, 2019.
5 percent of the total grade for CS480 students / 5 percent of the total grade for CS580 students.
Please note that GDD Students must satisfy the **GDD Skill Set** posted on the blackboard through their projects, as discussed in the class.

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. There are ten parts and nine joints in the table. Use different colors for all the parts as available. All the ten parts of the table can be considered as different sized rectangular parallelepipeds (or boxes). One strategy is to use a unit cube, scale and translate 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 at least two different angles or have an animation which can view the table from different angle. The dimension of the table and the checker-board pattern is to be selected by you. If you are planning to use just one window, then use rotation of the table to create multiple views in the same window.

Lastly, add some story or personality i.e. your unique angle to the table – why is your table different from someone else? Add shape or unique features (what if the table is from Malaysia instead of New Mexico) --- something small such as shape and color (texture?) which you can think and can implement using the package you have chosen will be desirable.

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 September 17-October 8th, 2019. If you are done earlier, you can show the demonstration earlier also during the office hours.

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

(0, 0, 0)

A

B

I

C

D

E

F

G, H joints are not visible
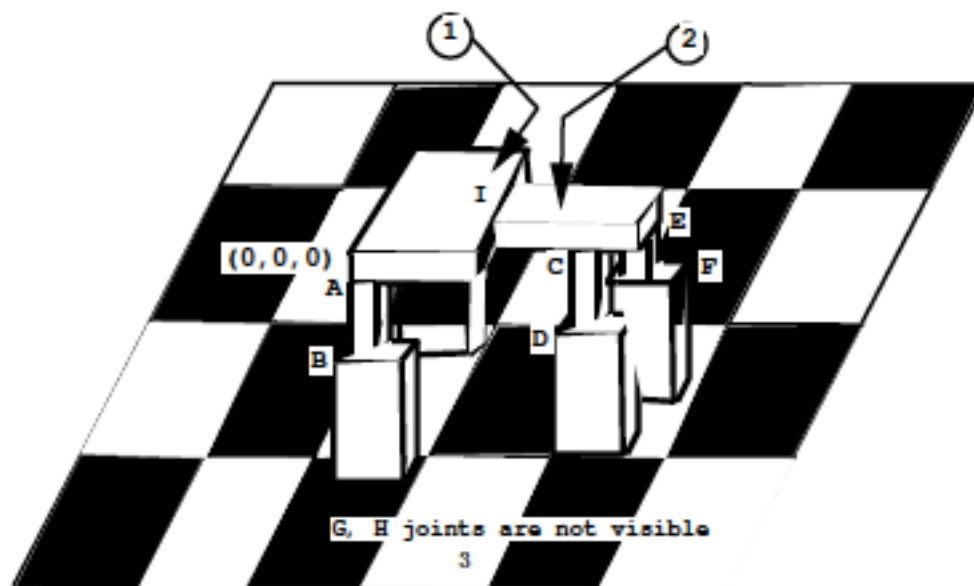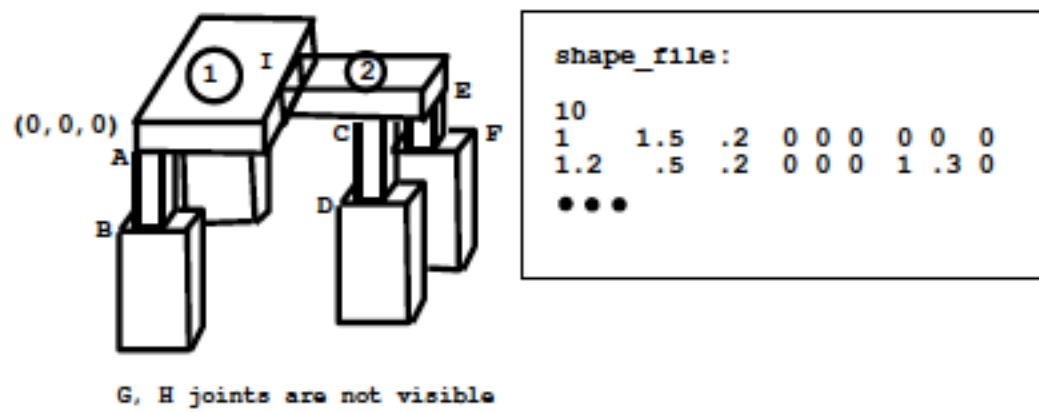
(0, 0, 0)

A

B

I

C

D

E

F

G, H joints are not visible

3

Figure 1: Table with shape file and floor. Joints are also shown.