**GAM 531/DPS 931**

**Lab Six**

**Due date: Thursday Nov, 1**

For this lab, we are going to augment the model loader that you developed. In your new version of loader, you will need to read and parse the OBJ file that contains the geometry of a 3D model as well as the texture data for that model. The signature of your loader function will be changed to:

int load\_model(String filename, GLfloat vertexArray[][2], GLfloat textureArray , GLuint faces[][3], GLuint faces\_texture[][3])

To start, download the “Earth.obj” file attached to this lab and take a look. The syntax of this file is similar to what you had in lab four except the following:

1. New lines added to the file that start with “vt”. Each of these lines contain one texture point on the texture image. Modify your code to read and add these points into the textureArray that is passed as an argument to your loader.

**Note:** The texture coordinates all have z value equal to 1.0. For now, we do not need the z values. Therefore, trash the third component (1.0).

1. The lines that start with ‘f’, now has a different format”

f 1/3 2/5 3/8

The first number in each couple (delimited by /) represents the vertex and the second number represents the texture coordinate corresponding to this vertex. So, the above ‘f’ line is interpreted as:

A triangular face that is achieved by connecting vertices 1, 2, 3. The texture for this face will be the triangular part of the texture image that is achieved by connecting texture points 3, 5 and 8.

Store these texture points for ever face in the faces\_texture argument that is passed to your function.