Homework 6

Lighting and Mesh display implementation:

Using the data structures for the MeshBuffer and TriangleBuffer from Homework5, write a program that will read in our Utah teapot data file. Your program should be able to switch between different implementations using command-line flags:

1) Display the teapot as a "wire" mesh (i.e. draw lines, rather than triangle primitives)

2) Display the teapot using flat shading (i.e. for a given primitive, the normals are the same for every vertex)

3) Display the teapot using Gouraud shading (i.e. each vertex is assigned the average of the normals of the primitives in which it is a part - this calculation should be in those data structures you wrote)

BONUS: 20 points - implement a mechanism (that can be triggered via some kind of GUI event) that allows the user to change the material properties

BONUS: 20 points - implement a mechanism to allow the user to move the model around with the mouse

(Please let me know in documentation, such as a README file, how to interact with your program, and what, if any, bonuses you've attempted!)