Specification of Testing Data

For Assignment 1

CS 405/805 – Computer Graphics

Fall, 2012

You may include the following C/C++ style definition of camera and light setups into your testing main program as global variables and to be used in your main program.

```
float VRP[3] = {6.0, 10.0, -5.0};
float VPN[3] = {-6.0, -9.0, 5.0};
float VUP[3] = {0.0, 1.0, 0.0};
float LRP[3] = {-10.0, 10.0, 0.0};
float LPN[3] = {10.0, 9.0, 0.0};
float LUP[3] = {0.0, 1.0, 0.0};
```

In Question 3.c, I would like you to print out the intermediate rotation matrix and translation matrix, as well as the M_{wc} and M_{cw}, in a readable format, e.g.:

"Rotation Matrix:

A11 A12 A13 A14

A21 A2 A23 A24

A31 A32 A33 A34

A41 A42 A42 A44"

For Questions 3.d. and 3.e, you only need to print out M_{wl}, M_{lw}, M_{cl}, and M_{lc} respectively.

In addition, a set of four specific 3D points defined in the world coordinates in the homogenous coordinate form are to be transformed into the camera coordinates and the light coordinates respectively:

```
float POINTS[4][4] = {
      {0.0, 0.0, 0.0, 1.0},
      {0.0, 1.0, 0.0, 1.0},
      {1.0, 1.0, 1.0, 1.0},
      {1.0, 1.0, 0.0, 1.0}};
```

You should print out the transformed coordinates in the camera and light coordinates respectively.