CS117 HW4

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1.
mesh.m explanation:
In mesh.m, for each triangle that is part of the mesh, I first compute the distances between the three points of the triangle. I then look at the distances and discard any points connected to edges longer than 0.02
After this I prune out points that have x, y, or z coordinates that is smaller than 0 or larger than 30 to prune out of bound points. This did not seem to have much effect because the first distance pruning took out most of the bad points.

This procedure fails along the corners of the box and prunes too many points.
A way to improve the procedure would be to calculate the area of a triangle in the mesh and prune any ones larger than the average or median triangle area. A second idea would be to find the angles in a triangle mesh and prune ones with angles that are too large.

2. There are some imperfections of the scan data resulting from some of the black and white stripes being lighter than the other ones due to the reflection of the light. This can be seen especially in the lower right and left corners of the box. The very front corner of the box for example seems brightest. The very top corners are obviously cut off because they are not in the picture.
The best camera and projector placement would be one that captures the whole object in a way that the black and white colors appear in even brightness in all areas.