Project #3 addendum: Suggestions on the \((\sin x)x\) “sombrero” surface.

The best way to form the “sombrero” shape is to express it as a parametric function \(f(\theta,r)\), where \(\theta\) and \(r\) are scalar parameters. The parameter \(r\) will control the radial distance from the center, the parameter \(\theta\) will determine the rotation around the center of the sombrero. The function \((\sin r)/r\) gives the height of the parametric surface (perhaps after appropriate scaling). Note that when \(r=0\), the height value is 0.

The mesh detail for your surface should be controlled by the “m” and “M” commands as in the sample program supplied with the assignment.

There are several ways to form the sombrero. One possibility is as quad strips plus a triangle fan. Another possibility is as radial triangle fans.

As a reminder: do not forget about the “floating point perils” pitfalls, as discussed in the project assignment.

For Project #3, it is not necessary to set normals correctly. You will have to add these, however, for project #4.