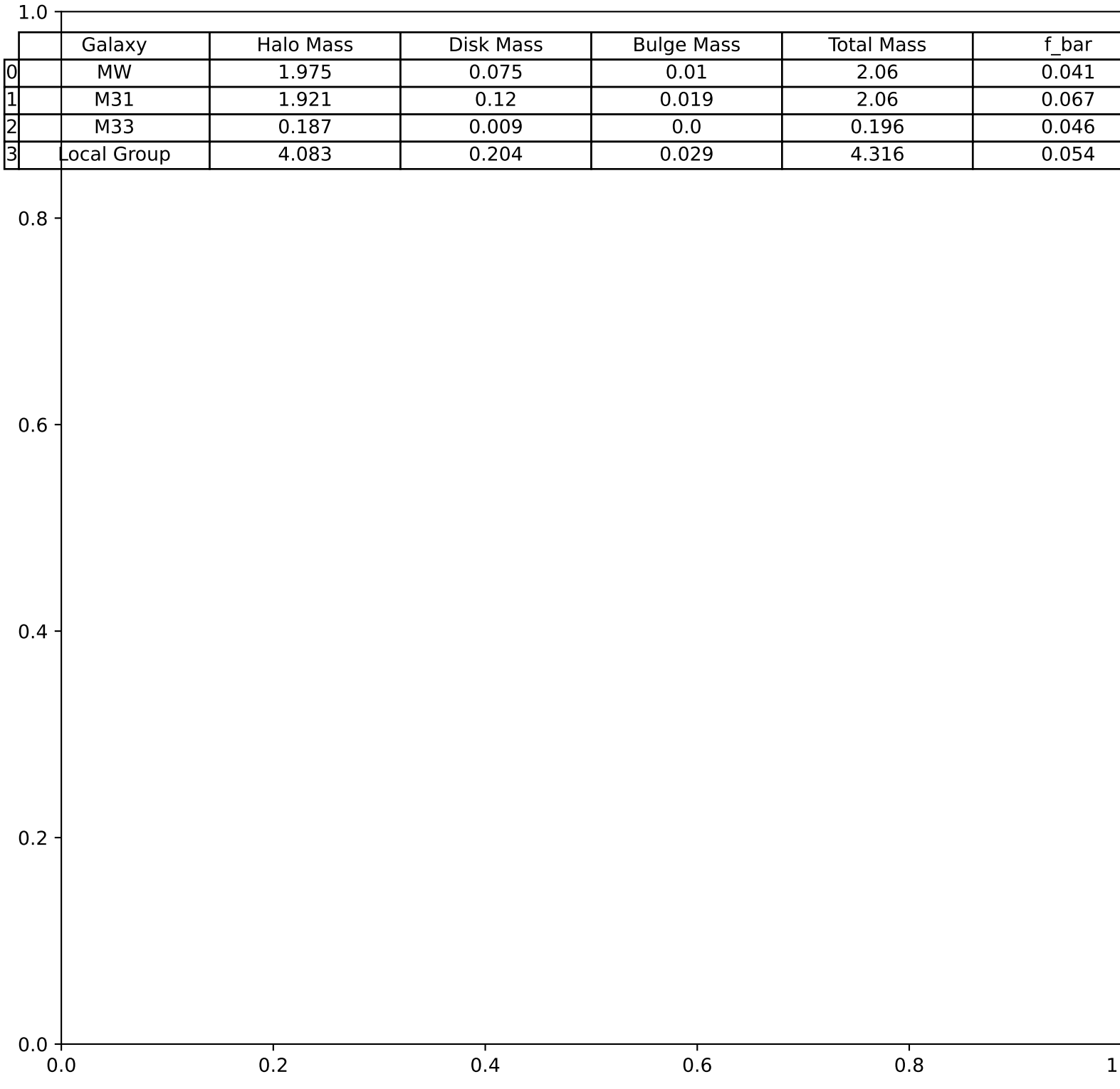
	Galaxy	Halo Mass	Disk Mass	Bulge Mass	Total Mass	f_bar
0	MW	1.975	0.075	0.01	2.06	0.041
1	M31	1.921	0.12	0.019	2.06	0.067
2	M33	0.187	0.009	0.0	0.196	0.046
3	Local Group	4.083	0.204	0.029	4.316	0.054



1. How does the total mass of the MW and M31 compare in this simulation? What galaxy component dominates this total mass?
   - MW and M31 share the same mass for this simulation. The most dominant component in either galaxy is the halo mass.

2. How does the stellar mass of the MW and M31 compare? Which galaxy do you expect to be more luminous?
   - M31 has a higher stellar mass than MW. I think M31 would be more luminous than MW because it has a higher stellar mass.

3. How does the total dark matter mass of MW and M31 compare in this simulation (ratio)? Is this surprising, given their difference in stellar mass?
   - The ratio of MW and M31 is 1.975/1.921 = 1.028 meaning that both galaxies have nearly the same dark matter.
   - This is surprising because M31 has more stellar mass, yet shares the same dark matter with MW that has a lower stellar mass.

4. What is the ratio of stellar mass to total mass for each galaxy (i.e., the Baryon fraction)?
   - The computed baryon fractions are: MW = 4.1%, M31 = 6.7%, and M33 = 4.6%.
   - In the Universe, Ωb/Ωm = 16% of all mass is locked up in baryons (gas & stars) vs. dark matter.
   - The values above are much lower. Some possible reasons include:
     - Not all baryons in galaxies form stars.
     - Gas loss from explosions may eject gas, lowering the baryon fraction.