GalaxyName	Halo Mass ($10^{12} M_{sun}$)	Disk Mass ($10^{12} M_{sun}$)	Bulge Mass ($10^{12} M_{sun}$)	Total Mass ($10^{12} M_{sun}$)	f_{bar}
Milky Way	1.975 solMass	0.075 solMass	0.01 solMass	2.06 solMass	0.041
M31	1.921 solMass	0.12 solMass	0.019 solMass	2.06 solMass	0.067
M33	0.187 solMass	0.009 solMass	0	0.196 solMass	0.046
Local Group	-	-	-	4.316 solMass	0.054

Part 4 Questions:

1) The total mass of MW and M31 are the same withi these simulations. Judging from the low f_{bar} for both galaxies, we can see they are dominated by dark matter!

2) The stellar mass of M31 is substantially larger than MW by about a factor of 2. Due to this doubling of stellar mass, I would expect this galaxy to be more luminous overall.

3) The total dark matter of both galaxies (MW and M31) are very similar in these simulations. This is surprising as you would think a higher dark matter mass would be able to retain more stars, however, it is M31 with a smaller dark matter mass but more stars overall.

4) Looking into the f_{bar} for each galaxy we can see that the fraction is about a ⅓ smaller than the 16 % seen in the universe as a whole as the local group is about ~5 %. The reason why this differs so much could just be the make-up of our particular local region of the universe. Our local group may be located in a pocket of particularly high dark matter density, meaning that a stronger majority of our mass is dark matter as opposed to baryonic matter. There could also be regions of higher baryonic density for other local groups of galaxies in the universe as well.