Summary of lecture 8

- In a gas of identical fermions/bosons the mean number of particles in one particular quantum state with energy ϵ is

$$\langle n \rangle_{FD} = \frac{1}{e^{(\epsilon-\mu)/kT} + 1}$$

Fermi-Dirac
(fermions)

$$\langle n \rangle_{BE} = \frac{1}{e^{(\epsilon-\mu)/kT} - 1}$$

Bose-Einstein
(bosons)

For particles of spin s there is also a “spin multiplicity” factor = (2s+1).