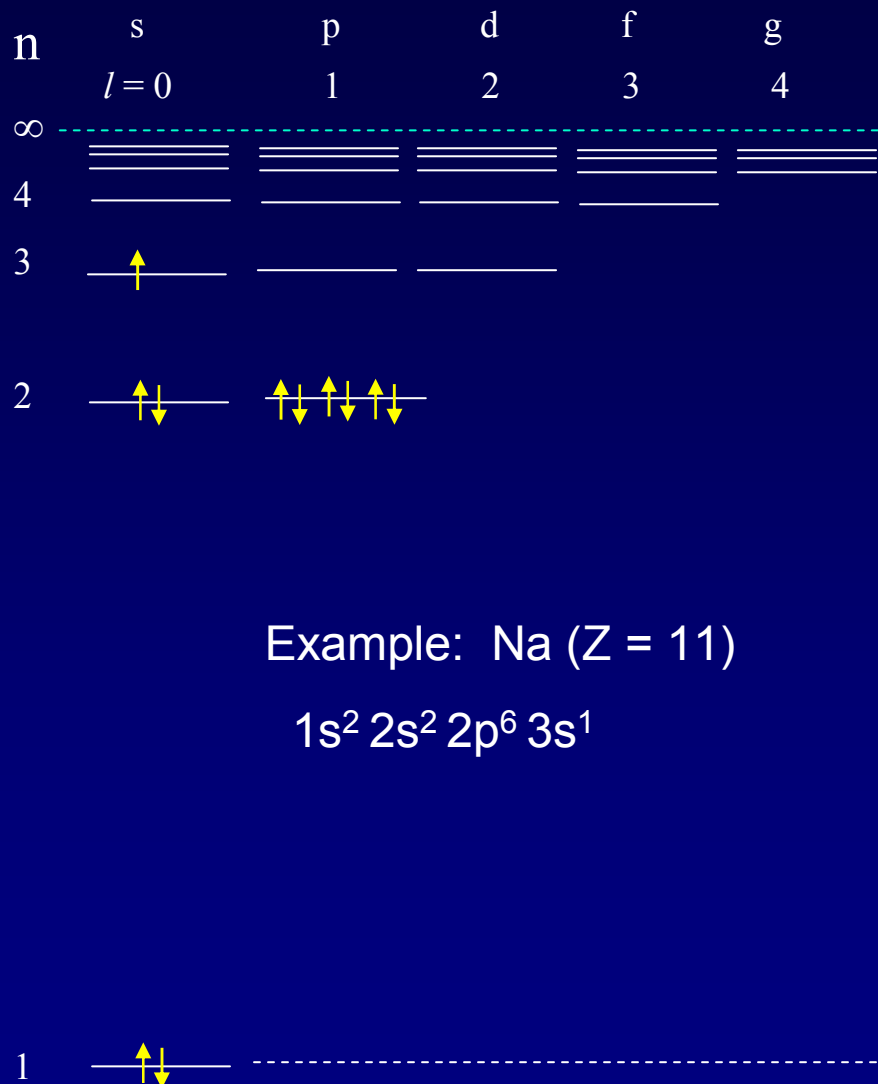


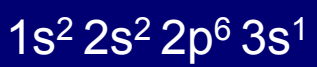
Filling Atomic Orbitals According to the Exclusion Principle



$$E_n = \frac{-13.6 \text{ eV}}{n^2} Z^2$$

In a multi-electron atom, the H-atom energy level diagram is distorted by Coulomb repulsion between electrons. Nevertheless, the H-atom diagram is useful (with some caveats) for figuring out the order in which orbitals are filled.

Example: Na (Z = 11)



l	label	#orbitals ($2l+1$)
0	s	1
1	p	3
2	d	5
3	f	7

Z = atomic number = # protons