## **Magnetic Dipole Moment of Current Loop**



N: number of turns

I: current through wire

A: area of loop

 $\hat{n}$ : unit vector perpendicular to plane of loop

 $\vec{\mu} = NIA\hat{n}$ : magnetic dipole moment

 $\vec{B}$ : magnetic field

 $\vec{\tau} = \vec{\mu} \times \vec{B}$ : torque acting on current loop

