Class 13: Still potential

Capacitance

Capacitance is defined between *two conductors*, with equal magnitude but opposite charges:
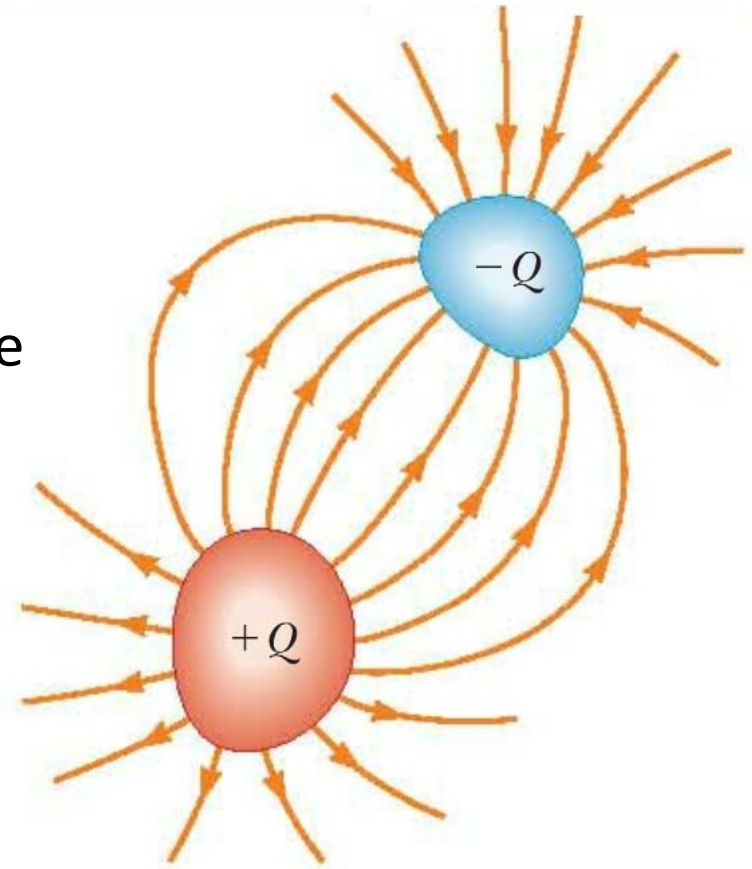
$$Q \propto \Delta V$$

Capacitace is the charge needed to raise the potential difference by 1V:

$$C = \frac{Q}{\Delta V}$$

Very often the conductor at the lower potential is defined as the zero potential, then

$$C = \frac{Q}{V}$$

V is the potential of the other conductor.

Units for capacitance:
Farad (F) $\equiv$ C/V

Special case

If all the field lines from one conductor ends at the other, then we just need to vary the charge in one conductor and the charge of the other conductor will follow (by induction).

Examples of this type of configuration: