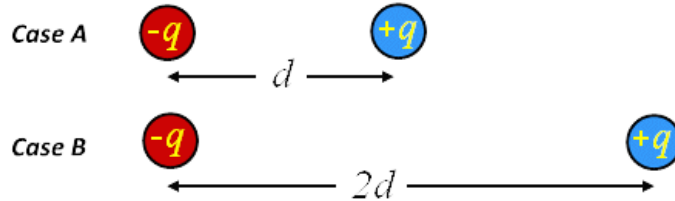


Prelecture Question 2

In Case A two charges which are equal in magnitude but opposite in charge are separated by a distance d . In Case B the same charges are separated by a distance $2d$.

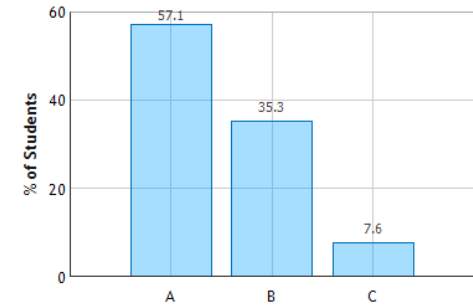
Which configuration has the highest potential energy U ?



- Case A has the highest potential energy
- Case B has the highest potential energy
- Both cases have the same potential energy

Could you explain why in the prelecture question #2 the increased distance also increased the electric potential energy? Right before that the prelecture had specified that the closer the charged particles are to each other, the larger the magnitude of the electric potential energy.

First Answer Choice Distribution (N = 892)



Electric Potential Energy

$$U_r \equiv \Delta U_{\infty r} = \frac{q_1 q_2}{4\pi\epsilon_0 r}$$

