Capacitor Problem (1)

Consider two oppositely charged parallel plates separated by a very small distance d.

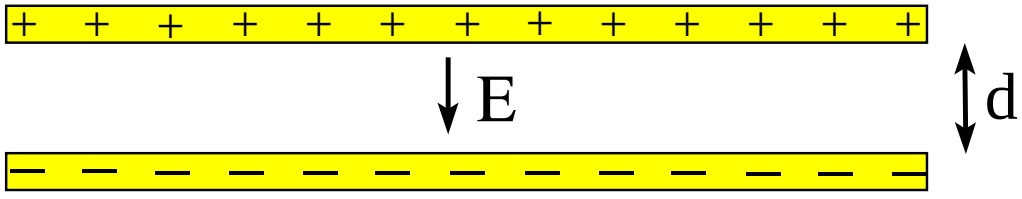
What happens when the plates are pulled apart a fraction of d? Will the quantities listed below increase or decrease in magnitude or stay unchanged?

(a) Electric field $\vec{E}$ between the plates.

(b) Voltage V across the plates.

(c) Capacitance C of the device.

(d) Energy U stored in the device.



Capacitor Problem (2)

Consider two equal capacitors connected in series.

(a) Find the voltages $V_A - V_B, V_B - V_C, V_A - V_D$.

(b) Find the charge Q_A on plate A.

(c) Find the electric field E between plates C and D.