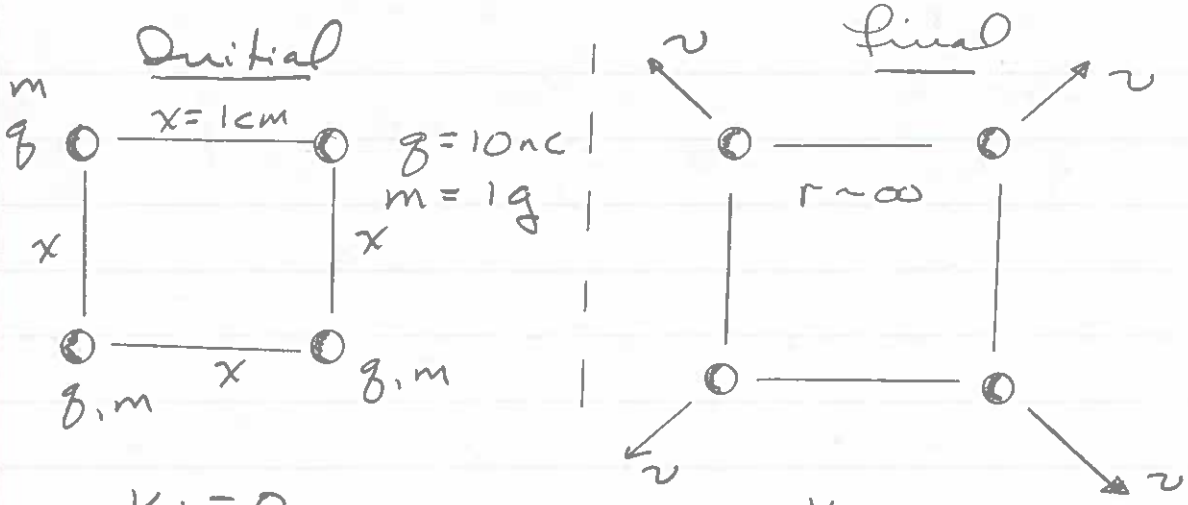

$K_i = 0$

U_i

K_f

$U_f = 0$ since all have $r \sim \infty$

$$\Delta E_{mech} = \Delta K + \Delta U = 0$$

$$(K_f - K_i) + (U_f - U_i) = 0$$

So: $K_f = U_i$

Now: $U_i = 4\frac{Kqq}{x} + 2\frac{Kqq}{\sqrt{x^2+x^2}}$

$$= \frac{4Kq^2}{x} + \frac{2Kq^2}{\sqrt{2}\,x}$$

$$= \frac{Kq^2}{x}\left(4 + \sqrt{2}\right)$$

and,

$$K_f = 4\left(\tfrac{1}{2}mv^2\right)$$

By symmetry, all have same speed.

So:

$$2mv^2 = \frac{Kq^2}{x}\left(4+\sqrt{2}\right)$$

$$\therefore\ v = \left\{\frac{Kq^2}{2mx}\left(4+\sqrt{2}\right)\right\}^{1/2} = 0.4933\ \frac{m}{s}$$