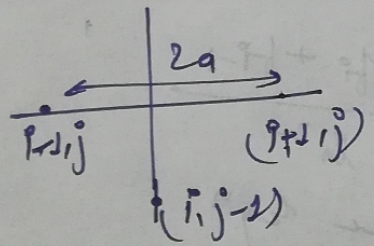
Q4:- For Neuman condition,

$\frac{\partial V}{\partial n} = 0$ is given.



Since electric field normal to neuman boundary is zero,

$$\frac{\partial V}{\partial n} = \frac{V_{i-1,j} - V_{i+1,j}}{2h} \Rightarrow \frac{\partial V}{\partial n} = 0$$

$$\boxed{V_{i+1,j} = V_{i-1,j}}$$

from finite Diff Method

$$V_{i,j} = \frac{1}{4}\left[V_{i+1,j} + V_{i-1,j} + V_{i,j-1} + V_{i,j+1}\right]$$

$$= \frac{1}{4}\left[2V_{i-1,j} + V_{i,j-1} + V_{i,j+1}\right]$$