

Here,

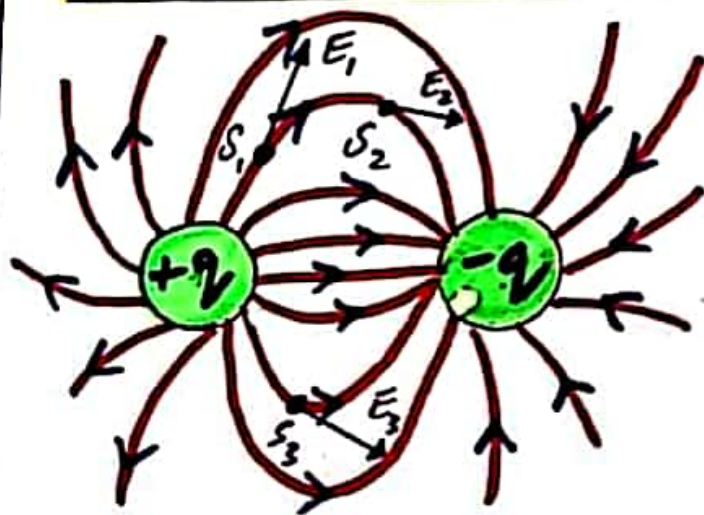
- Both +ve point charges are of equal magnitude.
- The field lines are "curved".
- The lines in region b/w these two charges **repel** each other.

Middle region:~

It is "zero field spot" or "neutral zone".

Note:~

The behaviour of two identical "-ve" charges will be same but arrows will be "diverted inward".



Here,

- Both opposite charges are of equal magnitude.
- The field lines start from +ve charge and end at -ve charge. (+ve \rightarrow -ve).

Tangents:~

We draw tangents on points 1, 2 and 3 to tell **directions** of resultant intensities (E_1 , E_2 and E_3).

5. Electric field lines for two oppositely charged parallel plates:

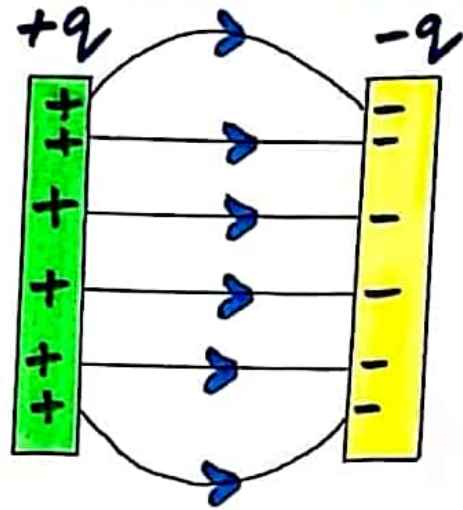
Here,

Field is **uniform** in the middle region.

Here:~

These field lines have:~

- (1.) same **direction**
- (2.) same **magnitude**
- (3.) are **parallel**
- (4.) are **evenly-spaced**



Properties of Electric field lines:~

1. Origination of field lines:~

These lines start from +ve charge and end on the -ve charge. ($+q \rightarrow -q$)

2. Tangents tell Direction:~

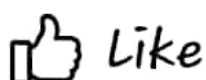
The tangents to field lines gives "direction" of electric field.

3. Strong and Weak field:~

The lines are "closer" where field is "strong" and are farther apart (distant) where field is "weak".

4. \vec{E} has only one direction:~

No two electric field lines "intersect" each other. This is because \vec{E} has only one direction at any given point. If the lines cross,



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