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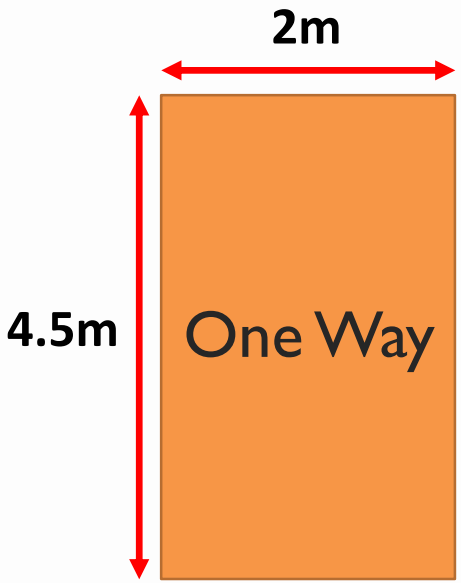
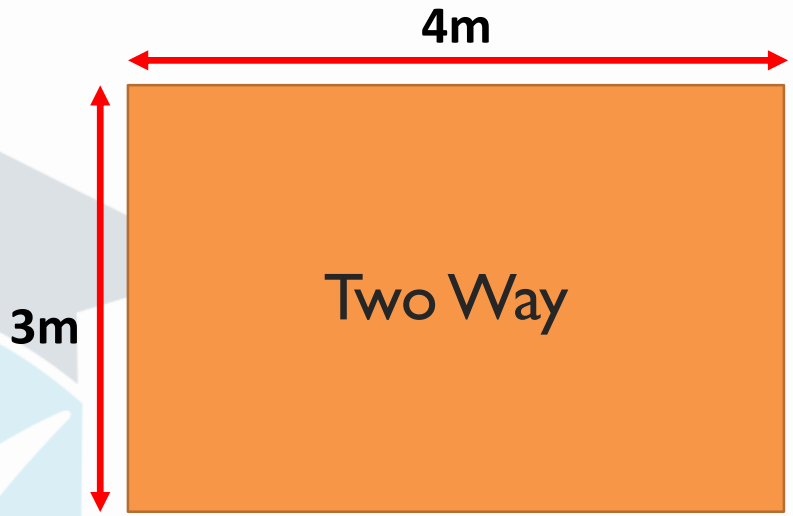
SLAB

HOW TO FIND OUT ONE WAY & TWO WAY SLAB



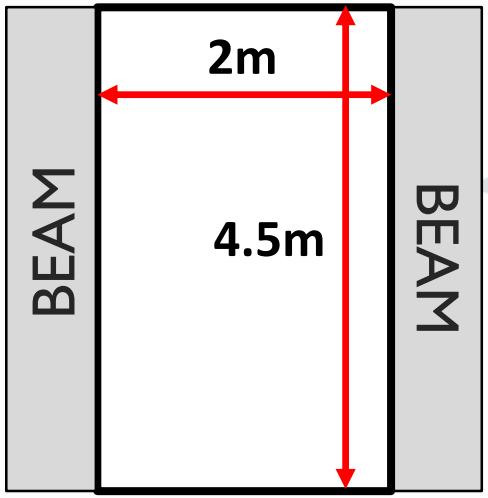


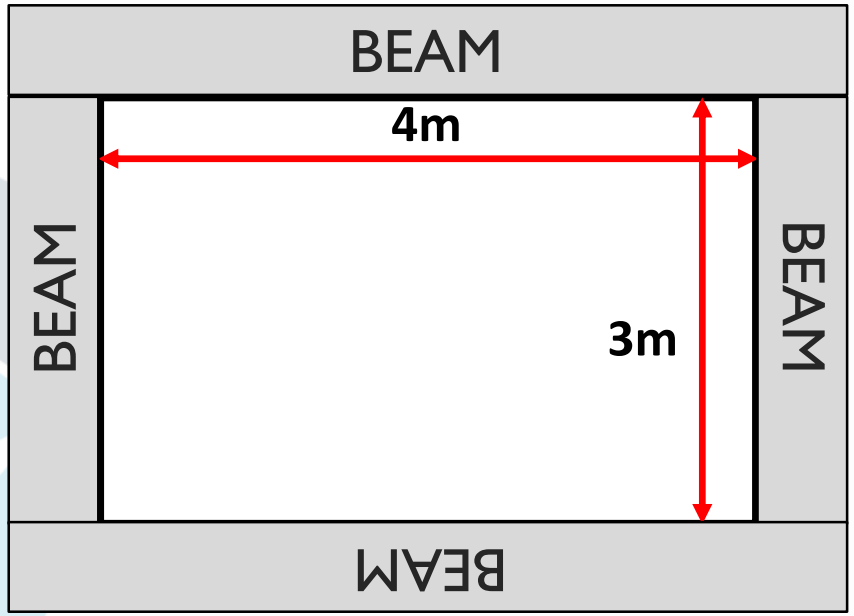
$$\frac{\text{Longer span}}{\text{Shorter span}} > 2$$

$$\frac{4.5}{2} = 2.25 > 2$$

$$\frac{\text{Longer span}}{\text{Shorter span}} \leq 2$$

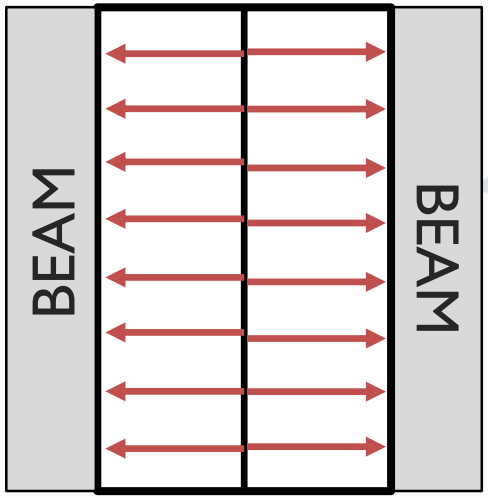
$$\frac{4}{3} = 1.33 \leq 2$$



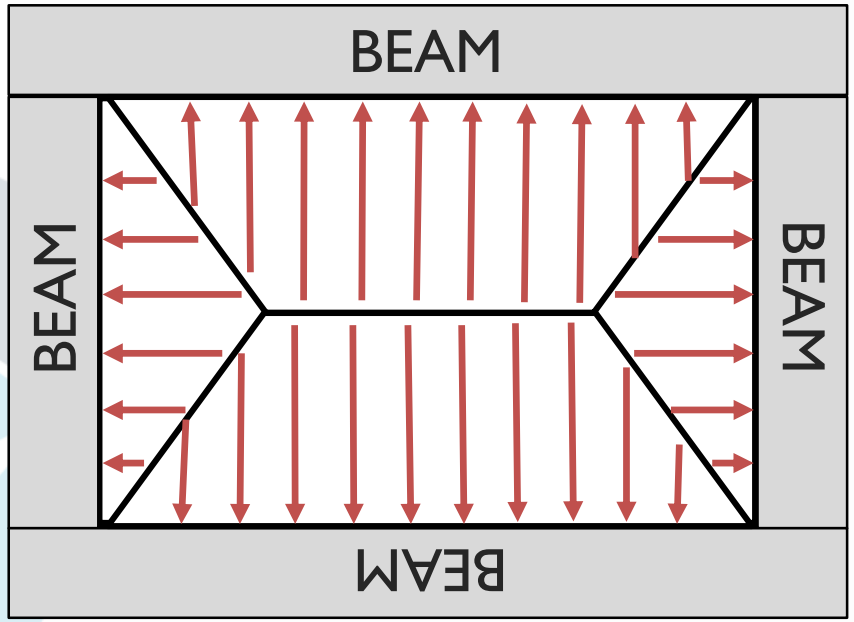


- One Way Slab – Support by beams on two opposite sides, carrying the load along Shorter direction.

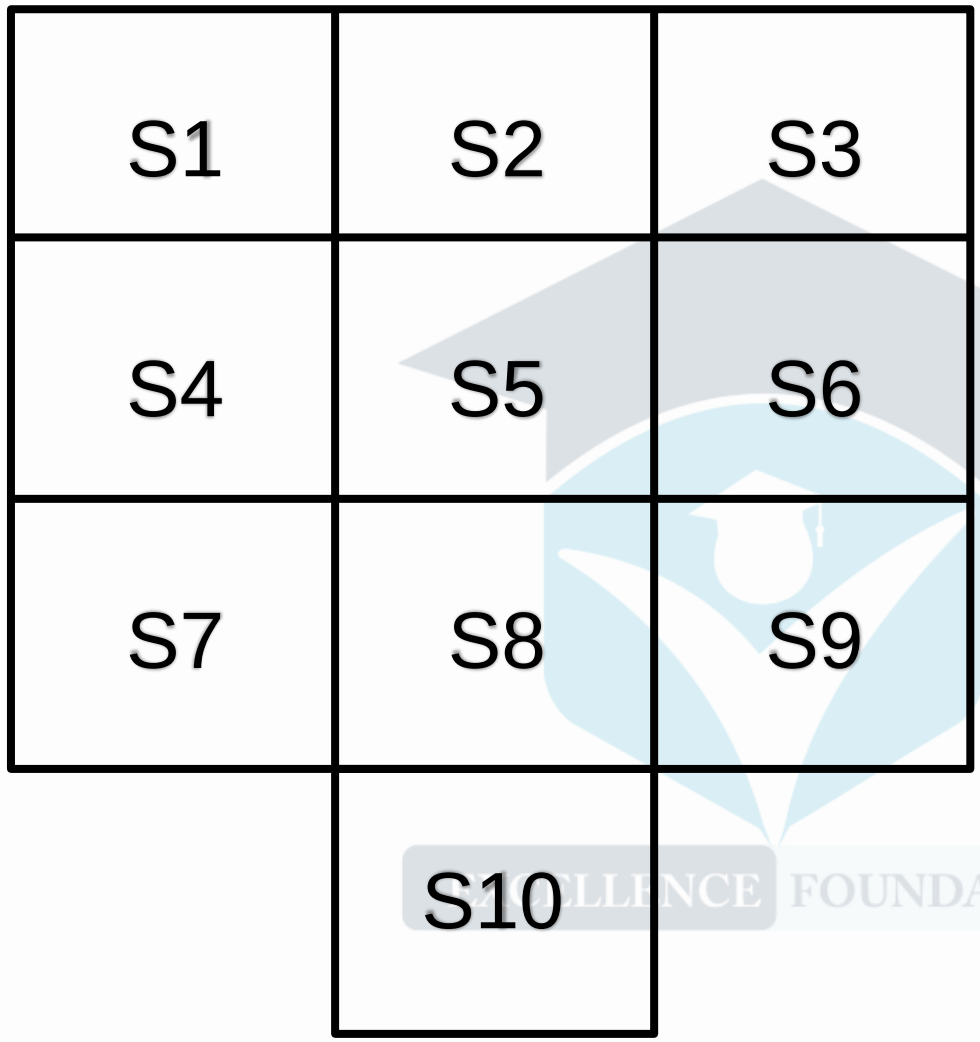
- Two Way Slab – Support by beams on all Four sides, carrying the load along Both direction.



- Load Travel in Shorter Path on Longer beam & Half of total load is transferred on each Beam



- Load travel on all beam in the form of trapezoidal & Triangle.



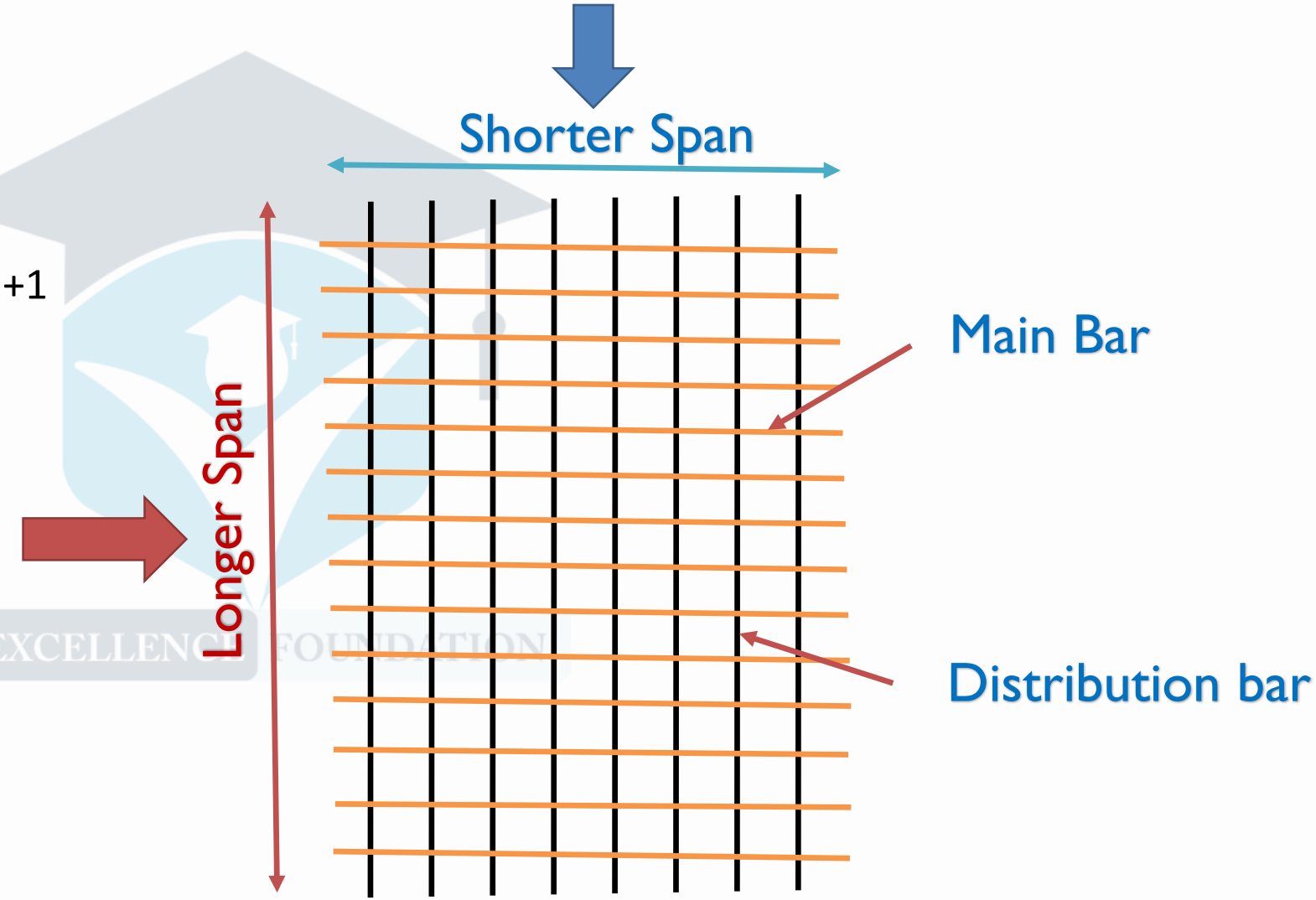
FIVE CONDITIONS OF SLAB

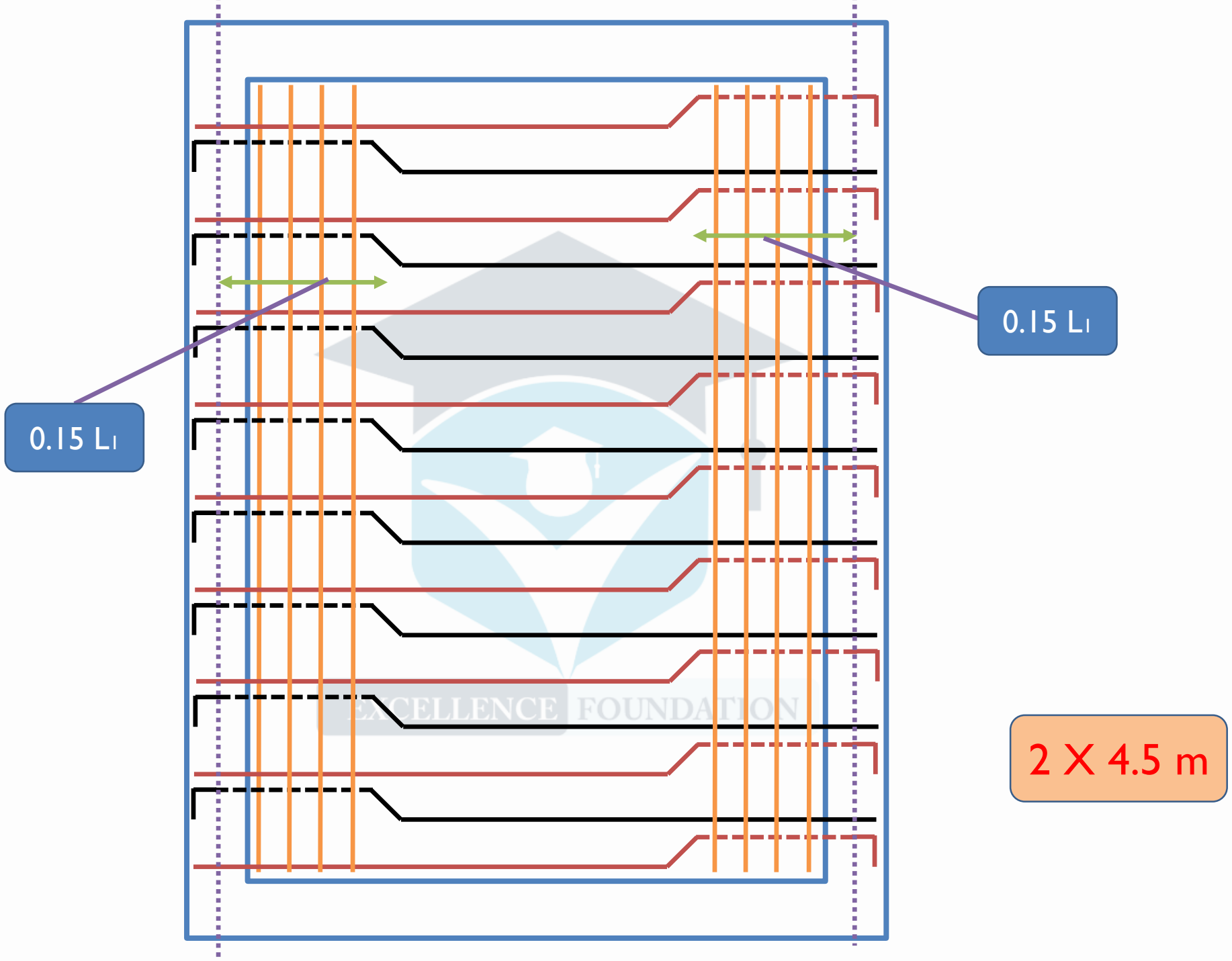
- One side discontinuous
- Two side discontinuous
- Three side discontinuous
- Four side discontinuous
- Four side continuous

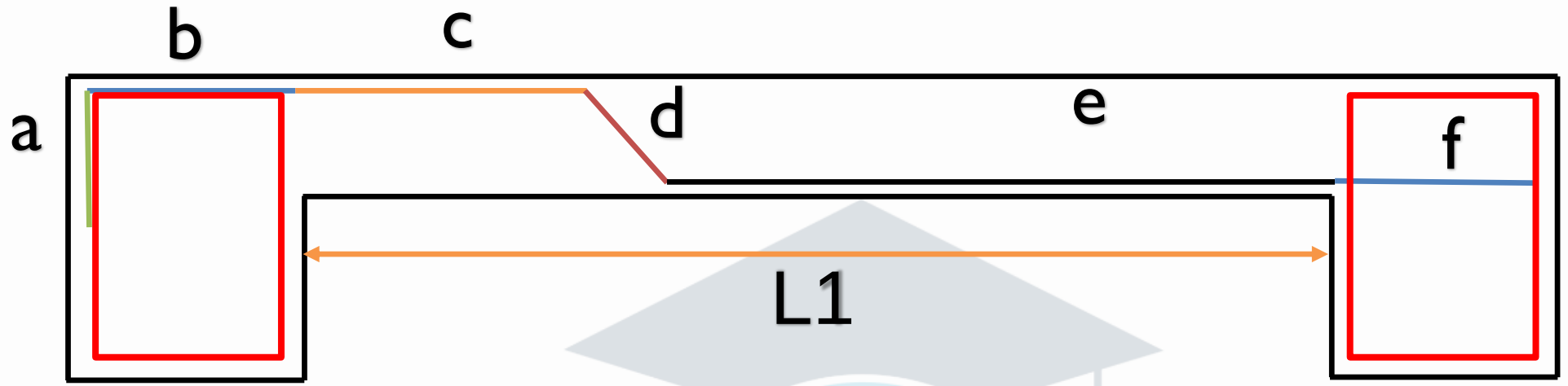
SLAB CALCULATION

- Number of bars –

No. of bars = (Opposite length/spacing) +1




0.15 Ll
0.15 Ll
2 X 4.5 m



a = Thickness of slab – Slab Cover – Slab Cover

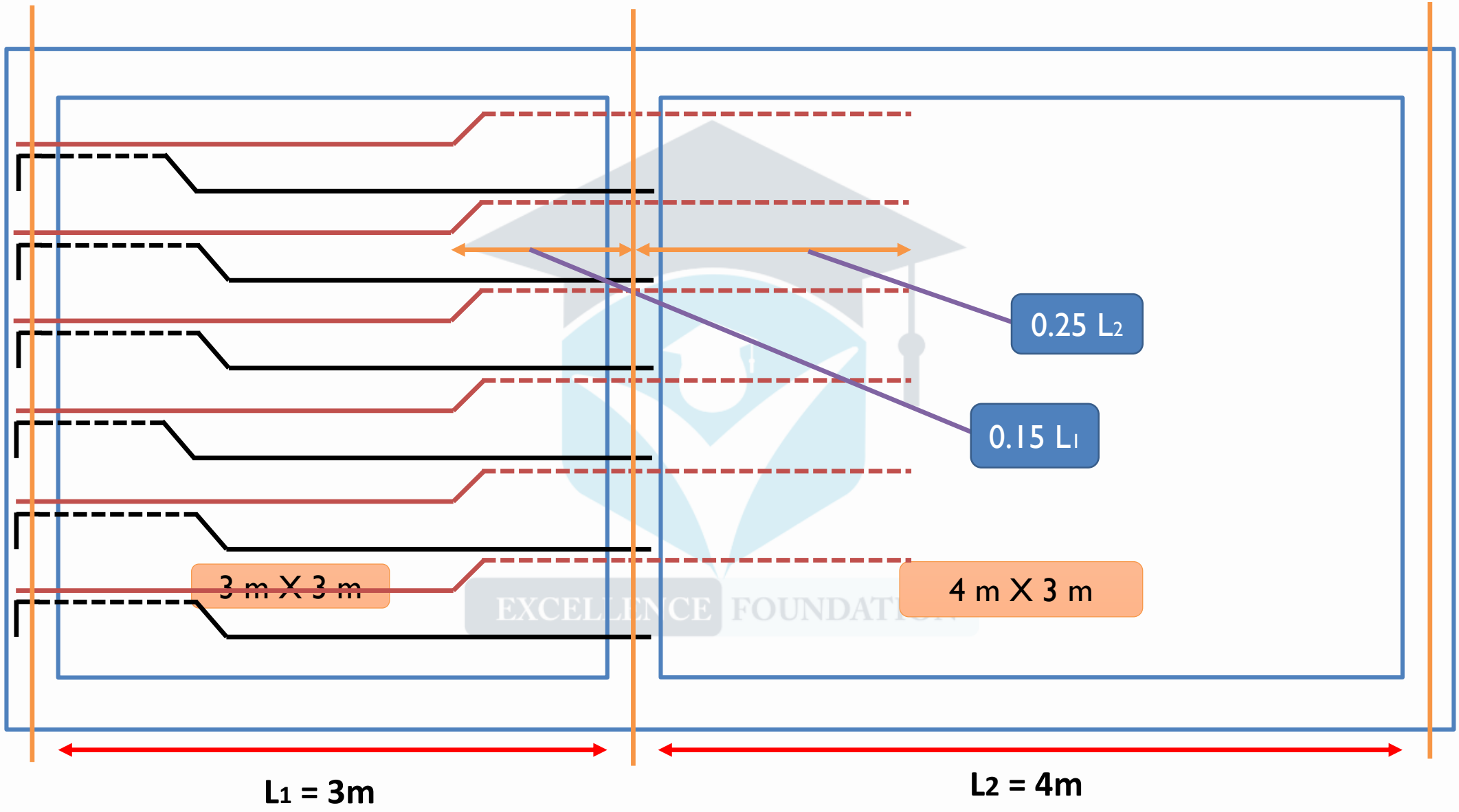
b = Left Support of Width of beam – Beam Cover

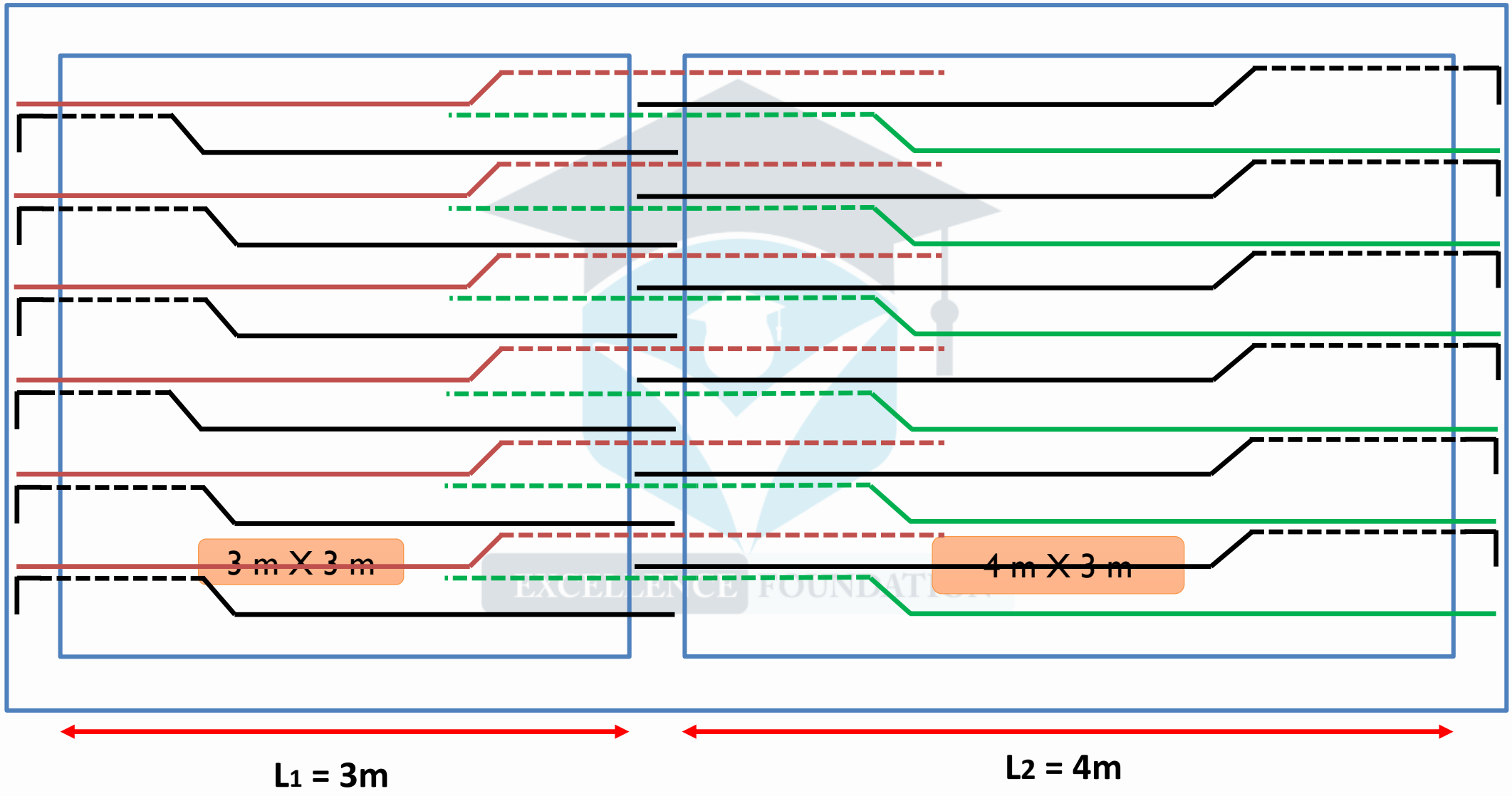
c = 0.15*L_1 – (Left Support of width of beam/2)

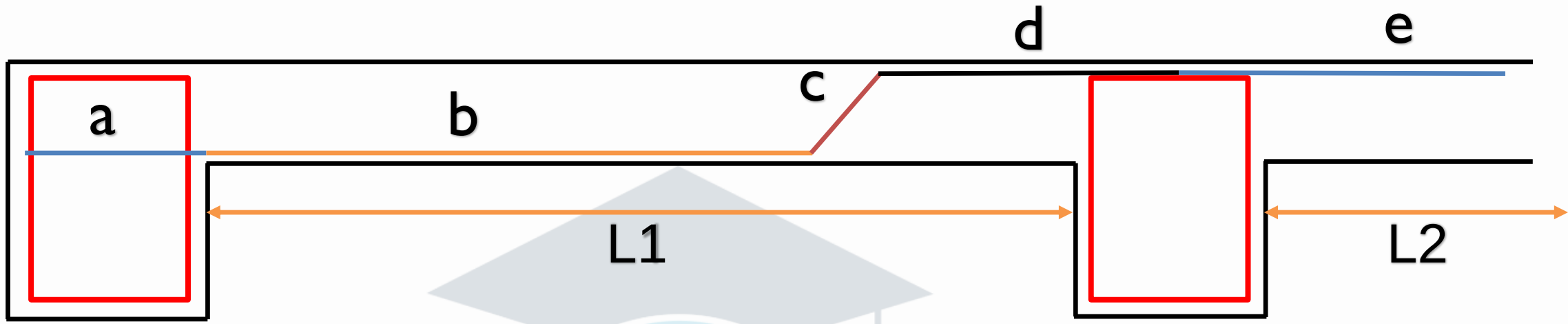
d = 0.42D …….(D= THk of slab - Slab Cover – Slab Cover – Dia Of bar)

e = L_1 – c

f = Right Support of width of beam – beam cover


0.25 L2
0.15 L1
3 m X 3 m
4 m X 3 m
L1 = 3m
L2 = 4m


3 m X 3 m
4 m X 3 m
L1 = 3m
L2 = 4m



a = Left Support of Width of beam – Beam Cover

b = L_1 – (d-(Right Support/2))

c = 0.42D …….(D= THk of slab - Slab Cover - Slab Cover – Dia Of bar)

d = 0.15* L_1

e = 0.25* L_2