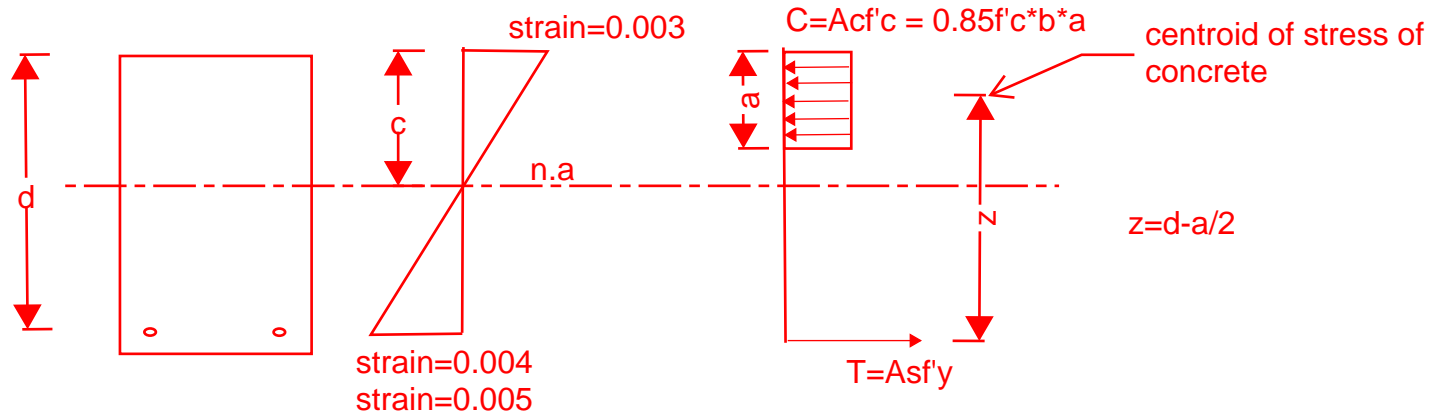


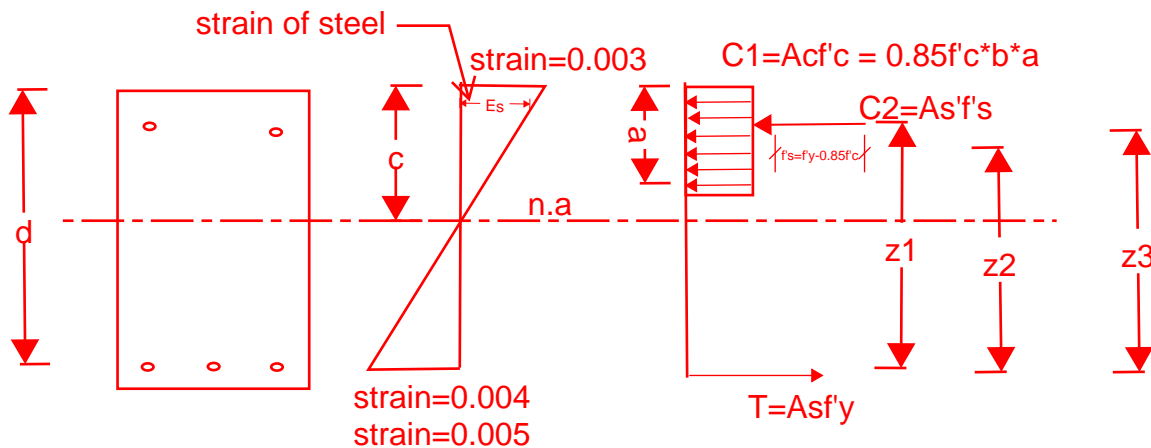
remember  $a=B^*c$   
refer to ACI 318-14 22.2.2.4.1



Using the neutral axis to divide your beam, the section which higher area has a higher moment capacity.



P.S this doesn't necessarily translate to better moment capacity. It's just to address your N.A axis movement question.



from this there are 2 kind of  $Z$ 's.  
1. when you take moment about  $T$ , you get two  $Z$ s. One due to  $C_1$  and other due to  $C_2$ . It's easier and preferred to do this

2. Take moment about centroid of (Compressive zone)  $C_1$  and  $C_2$ . You only get 1 $z$ .

$$T = (C_1 \cdot z_2) + (C_2 \cdot z_1) \quad \text{Moment about } T$$

$$C_1 + C_2 = T \cdot Z_3 \quad \text{Moment about } C_1 + C_2 (\text{centroid})$$

$z_1$  = coincides with centroid of steel ref  $T$   
 $z_2$  = coincides with centroid of conc stress ref  $T$   
 $z_3$  = coincides with centroid of  $C_1$  and  $C_2$

