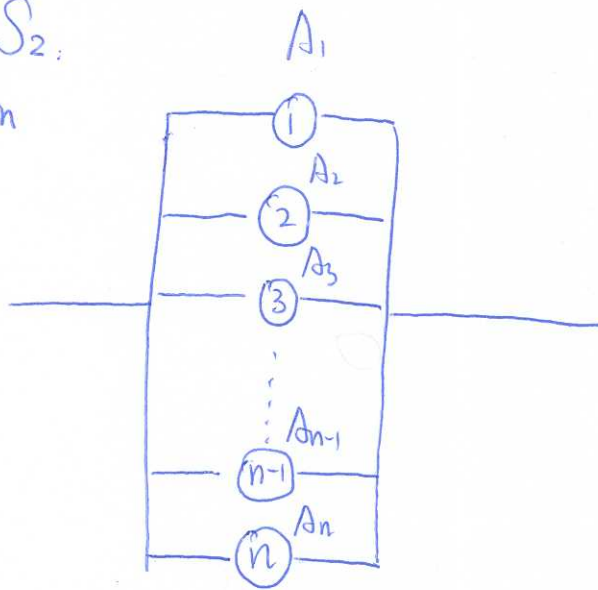


System  $S_2$ :  
(Components in  
Parallel)



$$P(S_2 \text{ fail}) = P(\text{All } A_i \text{ fail})$$

$$= P\left(\prod_{i=1}^n A_i\right)$$

$$= \prod_{i=1}^n P(A_i)$$

$$= \prod_{i=1}^n q_i \quad (**)$$

$$\text{If } q_1 = q_2 = \dots = q_n$$

$$(**) = q^n$$