Exemplar Problem with Solution :

If A and B are two candidates seeking admission in an engineering College. The probability that A is selected is .5 and the probability that both A and B are selected is at most .3. Is it possible that the probability of B getting selected is 0.7?

Soln. False

Now, Let's analyse the problem in mathematical terms

Given that, $P(A) = 0.5, \ P(A \cap B) < 0.3$

Now, $P(A) * P(B) \leq 0.3$

$\Rightarrow 0.5 * P(B) \leq 0.3$

$\Rightarrow P(B) \leq 0.6$

Hence, it is false statement