Statistics Assignment 4

① Yes, it is possible. If probability of event is 0 or 1, it is possible.

② $P(A^c \cap B^c) = 1 - P(A \cup B)$

$= 1 - P(A) - P(B) + P(A \cap B)$

$= 1 - P(A) - P(B) + P(A)P(B)$

$= [1 - P(A)][1 - P(B)]$

$= P(A^c)P(B^c)$

Thus, A^c and B^c are independent events if A and B are independent events.