ASSIGNMENT-13

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Download all python codes from

https://github.com/Gayathri1729/SRFP/tree/main/Assignment13

and latex-tikz codes from

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1 PROBABILITY 6.5

If A and B are any two events such that $P(A) + P(B) - P(AB) = P(A)$, then

(A) $P(B/A) = 1$
(B) $P(A/B) = 1$
(C) $P(B/A) = 0$
(D) $P(A/B) = 0$

2 SOLUTION

Given,

$$P(A) + P(B) - P(AB) = P(A) \tag{2.0.1}$$

$$\implies P(B) = P(AB) \tag{2.0.2}$$

Also note that,

$$P(A|B)P(B) = P(AB) \tag{2.0.3}$$

From (2.0.2),

$$P(A|B)P(B) = P(B) \tag{2.0.4}$$

If $P(B) \neq 0$, then

$$P(A|B) = 1 \tag{2.0.5}$$