

AI1103 : Assignment 1

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Download all python codes from

[https://github.com/ArunSiddardha/Assignment-1/
upload/assignment1.py](https://github.com/ArunSiddardha/Assignment-1/)

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PROB 6.18

If $P(A)=7/13$, $P(B)=9/13$ and $P(A \cap B)=4/13$, Evaluate $P(A|B)$?

SOLUTION 6.18

Given,

$$P(A) = \frac{7}{13} \quad (6.18.1)$$

$$P(B) = \frac{9}{13} \quad (6.18.2)$$

$$P(A \cap B) = \frac{4}{13} \quad (6.18.3)$$

By definition

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

From eq(6.18.3) and eq(6.18.2)

$$P(A|B) = \frac{\frac{4}{13}}{\frac{9}{13}}$$

$$P(A|B) = \frac{4}{9}$$

Therefore, $P(A|B)$ is $\frac{4}{9}$