

AI1103 : Assignment 1

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Download all python codes from

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

[https://github.com/ArunSiddardha/Assignment-1/
upload/assignment.tex](https://github.com/ArunSiddardha/Assignment-1/)

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,

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

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

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

By definition $\Pr(A|B) = \frac{\Pr(AB)}{\Pr(B)}$

From eq(6.18.3) and eq(6.18.2)

$$\Pr(A|B) = \frac{\frac{4}{13}}{\frac{9}{13}} \quad (6.18.4)$$

$$\Pr(A|B) = \frac{4}{9} \quad (6.18.5)$$

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