

# AI1103 - Assignment 1

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Download all python codes from

[https://github.com/vishwahurakadli/AI1103/blob/main/code\\_1.py](https://github.com/vishwahurakadli/AI1103/blob/main/code_1.py)

and latex-tikz codes from

<https://github.com/vishwahurakadli/AI1103>

Substituting the values,

$$\Pr(A + B) = \frac{4}{5} + \frac{1}{2} - \frac{8}{25} \quad (2.0.2)$$

$$\Pr(A + B) = \frac{98}{100} \quad (2.0.3)$$

## 1) Misc Problem 6.25

If  $\Pr(A) = 0.8$ ,  $\Pr(B) = 0.5$  and  $\Pr(B/A) = 0.4$   
Evaluate

- a)  $\Pr(AB)$
- b)  $\Pr(A/B)$
- c)  $\Pr(A + B)$

## 2) Solution

a) By the definition

$$\Pr(B/A) = \frac{\Pr(AB)}{\Pr(A)} \quad (0.0.1)$$

Substituting the values,

$$\Pr(AB) = \frac{2}{5} \times \frac{4}{5} \quad (0.0.2)$$

$$\Pr(AB) = \frac{8}{25} \quad (0.0.3)$$

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b) By the definition

$$\Pr(A/B) = \frac{\Pr(AB)}{\Pr(B)} \quad (1.0.1)$$

Substituting the values,

$$\Pr(A/B) = \frac{\frac{8}{25}}{\frac{1}{2}} \quad (1.0.2)$$

$$\Pr(A/B) = \frac{16}{25} \quad (1.0.3)$$

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c) By the result

$$\Pr(A + B) = \Pr(A) + \Pr(B) - \Pr(AB) \quad (2.0.1)$$