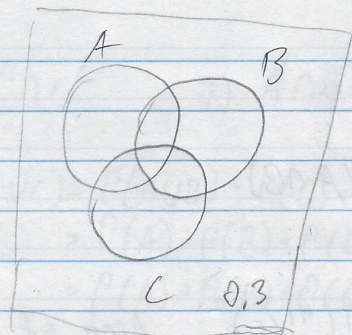


STAB52  
Quiz 1



$$D_1 + D_3 + D_4 + D_7 = 0.4 \quad \sum_{i=1}^7 D_i = 0.7$$

$$D_8 = 0.3$$

$$D_1 + D_2 = 0.1$$

$$D_4 + D_7 = 0.2$$

1.

$$a) P(A \cap C^c) + P(A \cap C) = P(A)$$

$$P(A \cap C^c) = P(A) - P(A \cap C)$$

$$= 0.4 - 0.2$$

$$= 0.2$$

$$\text{Note: } D_1 + D_3 = 0.2$$

$$b) P(A^c \cap B^c \cap C) = P(A \cup B \cup C) - P(A \cup B)$$

$$= 0.7 - 0.6$$

$$= 0.1$$

$$\text{Note: } D_6 = 0.1$$

$$c) P(A \cap B) = D_1 + D_4$$

$$D_1 = 0.2 - D_3 = 0.1 - D_2$$

$$D_4 = 0.2 - D_7$$

$$\text{Let } D_3 = D_7 = 0.2, \quad D_2 = 0.1$$

$$D_1 = 0$$

$$P(A \cap B) = 0$$

Final Values

$$D_1 = 0$$

$$D_5 = 0.1$$

$$D_4 = 0$$

$$D_2 = 0.1$$

$$D_6 = 0.1$$

$$D_1 + D_2 = 0.1$$

$$D_3 = 0.2$$

$$D_7 = 0.2$$

$$D_2 = 0.1$$

$$D_4 = 0$$

$$D_8 = 0.3$$

$$D_5 = 0.1$$

$$d) \text{ Let } D_3 = 0.1, D_2 = 0, D_7 = 0$$

$$D_1 = 0.2 - D_3 = 0.1 - D_2$$

$$= 0.1$$

Final Values

$$D_1 = 0.1$$

$$D_5 = 0.2$$

$$D_4 = 0.2 - D_7$$

$$D_2 = 0$$

$$D_6 = 0.1$$

$$= 0.2$$

$$D_3 = 0.1$$

$$D_7 = 0$$

$$D_4 = 0.2$$

$$D_8 = 0.3$$