Assignment 1

AI1110: Probability and Random Variables

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11.16.3.5: Given that a fair coin is marked 1 on one face and 6 on the other and a fair die are tossed.find the probability sum turns up to be 3 and 12

Solution: The CDF of random variable X denotes the sum turned up when coin and die are tossed and A,B denote the toss of a coin and roll of a dice.

(a) The probability when sum turns up to be 3

$$\Pr(X = 3) = p_A(1) \times p_B(2) \tag{1}$$

$$= \frac{1}{12} \tag{2}$$

(b) The probability when sum turns up to be 12

$$\Pr(X = 12) = p_A(6) \times p_B(6) \tag{3}$$

$$= \frac{1}{12} \tag{4}$$