Assignment 1

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Question 11.16.3.20: The probability that a student will pass the final examination in both English and Hindi is 0.5. and the probability of passing neither is 0.1. if the probability of passing the English examination is 0.75, what is the probability of passing the Hindi examination?

Solution: let E be the Event that student pass in English and H be the Event that student pass in Hindi.

$$\Pr(E) = 0.75 \tag{1}$$
$$\Pr(EH) = 0.5 \tag{2}$$
$$\Pr(E+H)' = 0.1 \tag{3}$$
$$\Pr(E+H) = 1 - \Pr(E+H)' \tag{4}$$
$$= 0.9 \tag{5}$$

Now

$$\Pr(H) = \Pr(E+H) + \Pr(EH) - \Pr(E) \tag{6}$$
$$= 0.9 + 0.5 - 0.75 \tag{7}$$
$$= 0.65 \tag{8}$$

Hence the probability of student passing in Hindi examination is 0.65.

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