

Assignment:- 1

AI1110: Probability and Random Variables

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CS22BTECH11001

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26 April, 2023

Exercise 10.15.1.7 It is given that in a group of 3 students, the probability of 2 students not having the same birthday is 0.992. What is the probability that the 2 students have the same birthday?

Solution. Let us define E as the event that no 2 students, in a group of 3 share a birthday

$$P(E) = 0.992 \quad (1)$$

We are asked to find the probability that 2 students, in a group of 3 share a birthday. This is the event E' .

We know that,

$$P(E) + P(E') = 1 \quad (2)$$

From (1) and (2)

$$P(E') = 1 - 0.992 \quad (3)$$

$$= 0.008 \quad (4)$$