

Answer on Question #83465 – Math – Statistics and Probability

Question

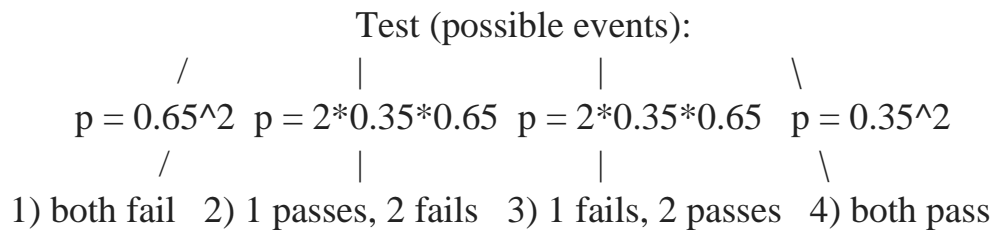
The probability of a student passing the lab test is 0.35. Two students are randomly selected to observe whether they can pass the test or not,

- (i) Draw a tree diagram to illustrate the above event.
- (ii) Calculate the probability that at least one person passes the test.

Solution

$p = 0.35, n = 2.$

- (i) A tree diagram to illustrate the above event is shown below.



- (ii) The probability that at least one person passes the test is given by.
 $P_2(k \geq 1) = 1 - P_2(k = 0) = 1 - C(0;2) * 0.35^0 * (1 - 0.35)^2 = 1 - 0.65^2 = 0.5775.$