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Homework

Please answer the following questions. Be sure that you have downloaded the associated Excel file before beginning the homework. This lesson uses the **JulyBayesHW.xlsx** file.

*Remember that homework counts for 20% of your final grade. You are allowed **unlimited** attempts per question for homework problems. The main goal of homework is for you to practice and learn how to apply what you've learned in the content without worrying about getting the problem right the first time. Some homework problems may also provide hints or advice. Have fun!*

M2L5HW1

1/1 point (graded)

A company has a plant in Houston and Dallas. 70% of the employees work in Houston, and 30% work in Dallas. Each year 3% of the Houston employees are involved in an accident, and 5% of the Dallas employees are involved in an accident.

If you randomly choose an employee who had an accident last year, what is the probability that they work in Houston?

☐ 0.15

☐ 0.21

☐ 0.44☒ 0.58 ✓

✓ Correct (1/1 point)

M2L5HW2

1/1 point (graded)

Assume 1 in every 1000 people are liars. Also suppose a lie detector test is 98% accurate. That is, if a person is lying, there is a 98% chance the test will indicate that they are lying. Also, if the person is NOT lying, there is a 98% chance the test will indicate the person is NOT lying.

If the lie detector test indicates the person is lying, what is the probability that the person is lying?

☐ 0.02☒ 0.05 ✓☐ 0.20

☐ 0.98

✓ Correct (1/1 point)

M2L5HW3

2/2 points (graded)

85% of all cabs are blue and the rest are green. A cab identified in a hit and run accident is identified as green. People can correctly identify the color of a cab 80% of the time. When surveyed, most Stanford students thought there was an 80% chance the cab is actually green.

Do you agree?

☐ Yes☒ No ✓

What is the chance that the cab is actually green?

☐ 0.80

☒ 0.41 ✓

☐ 0.15

☐ 0.52

Submit

✓ Correct (2/2 points)

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