Section 2 AI Problems

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July 2020

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- **Question**: Three people walk into an elevator. Each of these people chooses a floor randomly and independently between 2 and 10 (inclusive) and presses the button for that floor. What is the probability that the buttons for 3 consecutive floors are pressed?

- **Answer**:

2

- **Question**: Men who smoke are 23 times more likely to develop lung cancer than men who don't smoke. The probability of a man smoking is .216. What is the probability that a man smokes given, that he has lung cancer?

- **Answer**:

3

- **Question**: You are on a game show with three doors. There are goats behind two of the doors, and a car behind one of the doors, and your goal is to pick the car. You initially choose a door, and then the host (who knows which doors have what behind them) opens a different door to reveal a goat, and asks if you would like to switch doors. What is the probability of winning when switching?

- **Answer**: