Introducing Databricks

https://advancedsqlpuzzles.com

This puzzle is going to be a little different.

For this puzzle, I find running the simulation easiest to code in Python, but performing the permutations and set based comparisons to be easier in SQL.

So… the answer is Databricks, where we can use both Python and SQL in a single notebook to arrive at our answer.

To switch between Python and SQL you simply use magic commands (%python or %sql) to move between the two languages. Along the way you need to know a few tricks for getting a Spark Dataframe into a table, assigning field names and such, but it's all easy enough to figure out with the vast amount of information on the internet.

Here is a link to my solution. Note this links to my GitHub repository.
GitHub – Introducing Databricks

On to the puzzle….

Door Prizes

A producer of a TV game show is creating a new game where 5 different prizes are presented to a contestant, which are then hidden behind 5 doors and randomized. The goal is for the contestant to properly guess the prize hidden behind each door.

During gameplay, the contestant will guess the prize hidden behind the first door, and then the prize is reveled. The contestant then guesses the contents behind the next door, the prize is revealed, and so on. The contestant can duplicate any of their previous guesses.

The producer wants to know the following:

For each scenario, what is the probability distribution of the number of correct guesses?

What are the total permutations possible given a binary outcome (correct/incorrect) with 5 doors?

Are all permutations possible given the game play scenario?

Happy coding!