

# Example Project

Dominic Pazzula

# Problem – The Monte Hall Problem

Behind one of 3 doors is a car and behind the other two doors are a goat.

1. Pick a Door
2. One of the other doors is opened to show a goat.
3. Should you change your guess to the other unopened door?

# Answer

- Yes - Change your guess.
- Revealing the goat gives us additional information that skews the probability from 33% to 66%

Door 1	Door 2	Door 3
Contestant pick - closed	closed	closed
33% car	33% car	33% car
33%	66% car	
Closed	Open - Goat	Closed
33% Car	0% car	66% Car

# Answer

- Empirical Simulations Show this to be correct.
- Simulation of playing 1,000 games 1,000 times:

Stat	Value
Switching Mean	66.74%
Standard Deviation	1.4%