

```
1 import random
2
3 def monty_hall_simulation():
4     # Randomly assign locations for car and goats
5     doors = ["goat", "goat", "car"]
6     random.shuffle(doors)
7
8     # User selects a door
9     user_choice = random.randint(1, 3)
10    print(f"You chose door {user_choice}.")
11
12    # Host reveals a door with a goat
13    remaining_doors = [i for i in range(1, 4) if i
14                       != user_choice and doors[i - 1] == "goat"]
15    host_reveals = random.choice(remaining_doors)
16    print(f"Host reveals a goat behind door {
17          host_reveals}.")
18
19    # User chooses whether to switch or stay
20    switch = random.choice([True, False])
21    if switch:
22        user_choice = [i for i in range(1, 4) if i
23                       != user_choice and i != host_reveals][0]
24
25    # Determine the outcome
26    if doors[user_choice - 1] == "car":
27        print("Congratulations! You won the car!")
28    else:
29        print("Sorry, you got a goat.")
30
31 # Run the simulation
32 monty_hall_simulation()
33
```