**Monty Hall Problem Document**

## **Overview**

This Java program simulates the Monty Hall problem, a probability puzzle where a contestant picks one of three doors, one hiding a car and two hiding goats. The goal is to determine if switching doors increases the chances of winning.

## **Key Components**

1. **Door.java** – Represents a door that can hide a car or a goat.
2. **DoorGame.java** – Runs the simulation with two strategies:
   * **Keep choice:** Contestant sticks with their initial pick.
   * **Switch choice:** Contestant changes to the remaining door after a goat is revealed.
3. **TestDoor.java** – Runs the game and displays results.

## **Simulation Process**

1. A car and two goats are randomly placed behind three doors.
2. The contestant picks a door.
3. A goat is revealed behind one of the other doors.
4. The contestant either keeps or switches their choice.
5. The game records whether the contestant wins the car.

## **Results**



Switching doors significantly improves the chances of winning.

## **Conclusion**

This simulation demonstrates that switching doors increases the probability of winning.