20/3/24

Exp - 8

Monty hall problem using fuzzy logic

Aim:

To solve problem monty hall using fuzzy logic

Algo:

The monty hall problem is a famous probability puzzle that can be approched using fuzzy logic

Code:

```
import random
def simulate_monty_hall(switch_doors,
    num_trials = 1000):
winning_count = 0
for _ in range(num_trials):
  doors = [0, 0, 1]
  random.shuffle(doors)
chosen_door = random.choice([0,1,2])
monty_opens = [i for i in range(3) if i != chosen_door and doors[i] == 0][0]
if switch_doors:
    chosen_door = [i for i in range(3) if i != chosen_door and i != monty_opens][0]
if doors[chosen_door] == 1:
      winning_count += 1
return winning_count / num_trials
print("Probability of winning when switching", simulate_monty_hall(True))
print("Probability of winning when not switching",
```

classmate
Date
Page

- ~~Res.~~

Output :

Probability of winning when switching : 0.669
Probability of winning when not switching : 0.33

=== code execution Successful ===

o/p verified.

simulate_monty_hall(False))

- **Result:**

  Problem was solved using monty hall problem.

08/09/24