Title: Uncertainty Problems(Monty hall problem)

EX. NO : 06 Name: Parth Langalia

DATE : 6-03-2023 **Reg No. :** RA2011033010033

AIM :

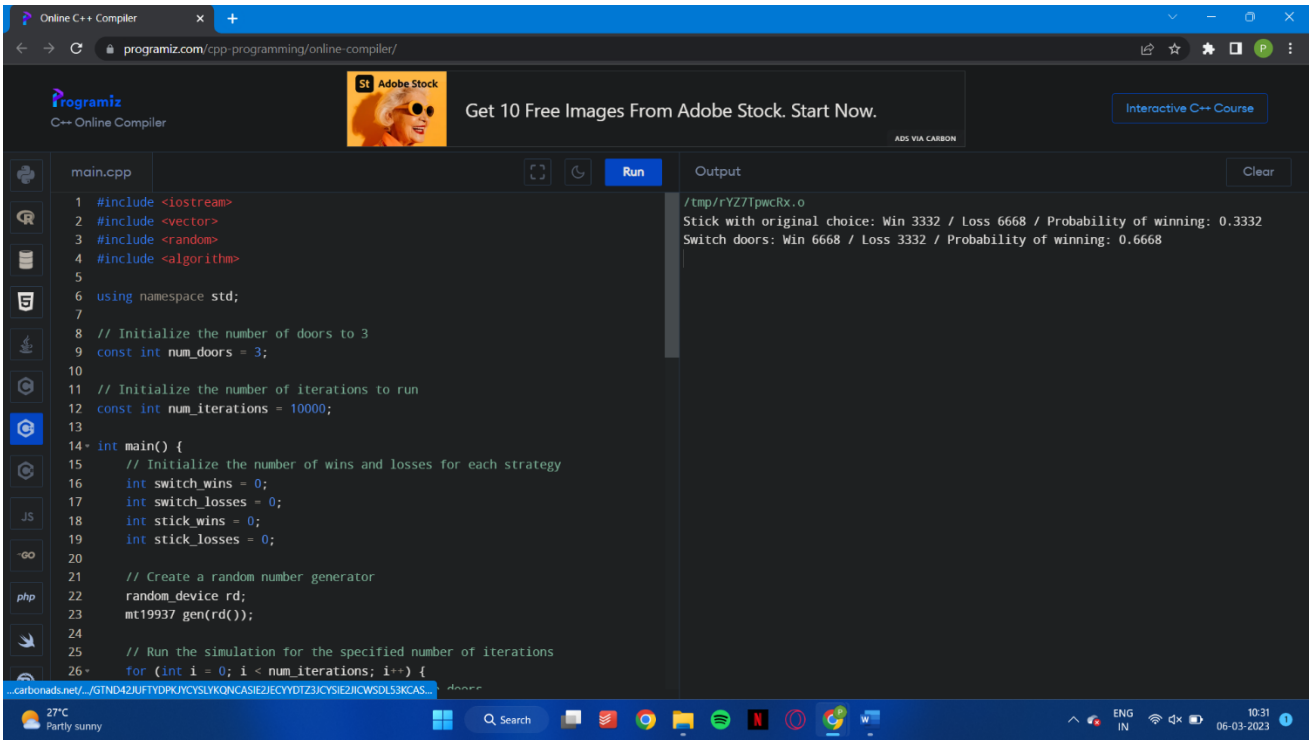
To implement Bayesian Belief Networks to model the problem of Monty Hall.

PSEUDO CODE :

1. Initialize the number of doors to 3.
2. Randomly assign a prize to one of the doors, and assign nothing to the other two doors.
3. Have the player select one of the doors.
4. Have the game show host select one of the doors that the player didn't choose, and that doesn't have the prize behind it. If there is more than one such door, randomly select one of them.
5. Ask the player if they want to switch their choice to the remaining unopened door, or if they want to stick with their original choice.
6. If the player decides to switch, have them select the remaining unopened door.
7. Reveal what's behind the door that the player has selected, whether they switched or stuck with their original choice.
8. If the player selected the door with the prize, report that they have won. If they did not select the door with the prize, report that they have lost.

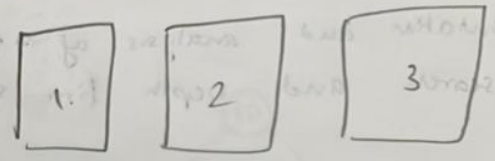
PROGRAM(with OUTPUT) :

Monty Hall Problem:



Manual Calculations :

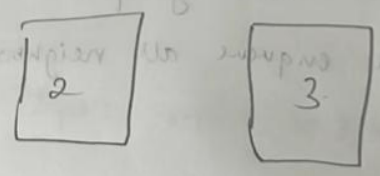
Manual Calculation / Input-Oupu :



Player chooses : 2

∴ Game host eliminates 1/3 :

∴ The door 1 will be eliminated.



⇒ Now host asks the player to change or keep choice.

If gift is behind 2, and the player chooses door 2, he wins if gift is behind door 2.

probability is $1/3$ or 33 %

and not

$\frac{1}{2}$ or 50 %.

RESULT :

The uncertainty problem(Monty hall problem) has been successfully implemented and solved.