

Experiment-9

Implementation of uncertain methods for an application

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Aim: To Implement Monty Hall problem using Python

Code:

```
# Monty Hall Game in Python
import random

def play_monty_hall(choice):
    prizes = ['goat', 'car', 'goat']
    random.shuffle(prizes)

    while True:
        opening_door = random.randrange(len(prizes))
        if prizes[opening_door] != 'car' and choice-1 != opening_door:
            break

    opening_door = opening_door + 1
    print('We are opening the door number-%d' % (opening_door))

    # Determining switching door
    options = [1,2,3]
    options.remove(choice)
    options.remove(opening_door)
    switching_door = options[0]




    # Asking for switching the option
    print('Now, do you want to switch to door number-%d? (yes/no)' %(switching_door))
    answer = input()
    if answer == 'yes':
        result = switching_door - 1
    else:
        result = choice - 1




    print('And your prize is ....', prizes[result].upper())

choice = int(input('Which door do you want to choose? (1,2,3): '))

# Playing game
play_monty_hall(choice)
```

Output:

```
RA1811027010019/019_1k ×   
 Run  Command: RA1811027010019/019_lab9.py  
Which door do you want to choose? (1,2,3): 1  
We are opening the door number-3  
Now, do you want to switch to door number-2? (yes/no)  
no  
And your prize is .... GOAT
```

```
RA1811027010019/019_1k ×   
 Run  Command: RA1811027010019/019_lab9.py  
Which door do you want to choose? (1,2,3): 2  
We are opening the door number-1  
Now, do you want to switch to door number-3? (yes/no)  
yes  
And your prize is .... CAR
```

Result: We have successfully implemented the monty hall problem.