Lab 2

vaccum cleaner

step 1 : consider room A & B

step 2 : start the vaccum cleaner implementation

step 3 : check if the dirt is present in room A, record the direction, else turn off vaccum cleaner

step 4 : ask the user

1: whether to clean the room

2: or stay in the room

3: or move to next room

step 5 : if user select 1, then clean the room

if user select 2, then stay in the room

if user select 3, then move to next room

step 6 : repeat from step 3

Cost calculation :

$O(b^d)$

$b = 4$

$d = 2$

$O(4^2) = O(16)$

output

```
Enter state of A (0 for clean, 1 for dirty) : 1
Enter state of B (0 for clean, 1 for dirty) : 1
Enter location (A or B) : B
cleaned B.
Moving vaccum left
Cleaned A.
Cost : 2
{'A' : 0, 'B' : 0}
```

Enter state of A (0 for clean, 1 for dirty) : 0
Enter state of B (0 for clean, 1 for dirty) : 0
Enter location (A or B) : A
Turning vaccum off
cost : 0
{'A':0, 'B':0}

Enter state of A (0 for clean, 1 for dirty) : 0
Enter state of B (0 for clean, 1 for dirty) : 1
Enter location (A or B) : A
A is clean
Moving vaccum right
cleaned B
cost : 1
{'A': 0, 'B': 0}

```
Enter state of A (0 for clean, 1 for dirty): 1
Enter state of B (0 for clean, 1 for dirty): 1
Enter location (A or B): b
Cleaned B.
Moving vacuum left
Cleaned A.
Cost: 2
{'A': 0, 'B': 0}

Enter state of A (0 for clean, 1 for dirty): 0
Enter state of B (0 for clean, 1 for dirty): 0
Enter location (A or B): A
Turning vacuum off
Cost: 0
{'A': 0, 'B': 0}

Enter state of A (0 for clean, 1 for dirty): 0
Enter state of B (0 for clean, 1 for dirty): 1
Enter location (A or B): A
A is clean
Moving vacuum right
Cleaned B.
Cost: 1
{'A': 0, 'B': 0}

Enter state of A (0 for clean, 1 for dirty): 1
Enter state of B (0 for clean, 1 for dirty): 0
Enter location (A or B): B
B is clean
Moving vacuum left
Cleaned A.
Cost: 1
{'A': 0, 'B': 0}
```

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