Page No:
Date:

Vaccum Cleaner Agent

Step 1: Consider the two location A & B
Step 2: Start the vaccum cleaner agent
Step 3: check the status (clean or dirt)
in the location A, record the direction, else off the vaccum cleaner.
Step 4: Ask the user to
* to clean the room
* to stay in the room
* to move to next location
Step 5: If the user select
1, clean the location
2, then stay in the room
3, or move to next location.
Step 6: For the location B, start from or Repeat from step 3.
Step 7: Stop the vaccum cleaner agent

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):
Enter state of B (0 for clean, 1 for dirty):
Enter location (A or B): A
Cleaned A
Moving vacuum right
Cleaned B
Cost = 2
{'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): A
Cleaned A
Moving vacum right
B is Clean
Cost: 1
{'A': 0, 'B': 0}

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): A
Cleaned A.
Moving vacuum right
Cleaned B.
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): B
Turning vacuum off
Cost: 0
{'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): A
Cleaned A.
Moving vacuum right
B is clean
Cost: 1
{'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): B
Cleaned B.
Moving vacuum left
A is clean
Cost: 1
{'A': 0, 'B': 0}
```

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