Q).. First Unique Number

You have a queue of integers, you need to retrieve the first unique integer in the queue.

Implement the FirstUnique class:

● FirstUnique(int[] nums) Initializes the object with the numbers in the queue.

● int showFirstUnique() returns the value of the first unique integer of the queue,
and returns -1 if there is no such integer.

● void add(int value) insert value to the queue.

Example 1:

Input:

["FirstUnique","showFirstUnique","add","showFirstUnique","add","showFirstUnique","add","showFirstUnique"]

[[[2,3,5]],[],[5],[],[2],[],[3],[]]

Output:

[null,2,null,2,null,3,null,-1]

Explanation:

FirstUnique firstUnique = new FirstUnique([2,3,5]);
firstUnique.showFirstUnique(); // return 2
firstUnique.add(5); // the queue is now [2,3,5,5]
firstUnique.showFirstUnique(); // return 2
firstUnique.add(2); // the queue is now [2,3,5,5,2]
firstUnique.showFirstUnique(); // return 3

firstUnique.add(3); // the queue is now [2,3,5,5,2,3]

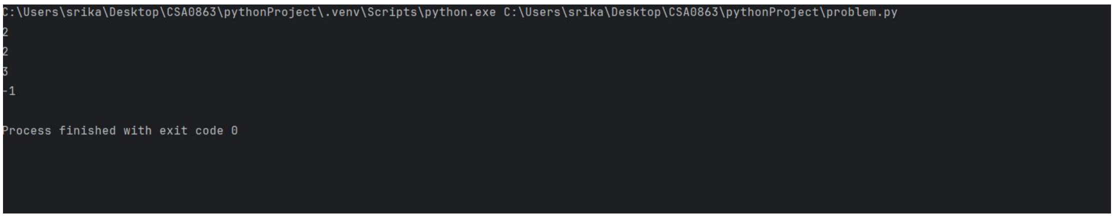
firstUnique.showFirstUnique(); // return -1Program:

```
from collections import deque, defaultdict
class FirstUnique:
    def __init__(self, nums):
        self.queue = deque()
        self.freq = defaultdict(int)
        for num in nums:
            self.add(num)
    def showFirstUnique(self):
        while self.queue and
self.freq[self.queue[0]] > 1:
            self.queue.popleft()
        return self.queue[0] if self.queue else -1
    def add(self, value):
        self.queue.append(value)
        self.freq[value] += 1

firstUnique = FirstUnique([2, 3, 5])
print(firstUnique.showFirstUnique())
firstUnique.add(5)
print(firstUnique.showFirstUnique())
firstUnique.add(2)
print(firstUnique.showFirstUnique())
firstUnique.add(3)
```

print(firstUnique.showFirstUnique())

Output:



```
C:\Users\srika\Desktop\CSA0863\pythonProject\.venv\Scripts\python.exe C:\Users\srika\Desktop\CSA0863\pythonProject\problem.py
2
2
3
-1

Process finished with exit code 0
```

Time complexity:O(n)