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DSALGO – IDB2

Code:

```
1 class Queue:
2     def __init__(self):
3         self.queue = list()
4
5     def enqueue(self, element):
6         if element not in self.queue:
7             self.queue.insert(_index: 0, element)
8             return True
9         return False
10
11    def dequeue(self):
12        if len(self.queue) > 0:
13            return self.queue.pop()
14        return ("Queue is Empty")
15
16    def peek(self):
17        if self.isEmpty():
18            return "Queue is empty"
19        return self.queue[0]
20
21    def isEmpty(self):
22        return self.queue == []
23
24    def size(self):
25        return len(self.queue)
```

```
27     def print(self):
28         print("Q Queue contains: ")
29         for x in self.queue:
30             print(x)
31         print()
32
33     Q=Queue()
34     Q.print()
35
36     Q.enqueue(5)
37     Q.print()
38
39     Q.enqueue(3)
40     Q.print()
41
42     print("Amount of elements in queue: ")
43     print(Q.size())
44     print()
45
46     Q.dequeue()
47     Q.print()
48
49     print("Is Q Queue empty?")
50     print(Q.isEmpty())
```

```
53 Q.dequeue()
54 Q.print()
55
56 print("Is Q Queue empty?")
57 print(Q.isEmpty())
58 print()
59
60 Q.dequeue()
61 Q.print()
62
63 Q.enqueue(7)
64 Q.print()
65
66 Q.enqueue(9)
67 Q.print()
68
69 print("The first element of Q Queue: ")
70 print(Q.peek())
71 print()
72
73 Q.enqueue(4)
74 Q.print()
75
76 print("Amount of elements in queue: ")
77 print(Q.size())
```

```
63 Q.enqueue(7)
64 Q.print()
65
66 Q.enqueue(9)
67 Q.print()
68
69 print("The first element of Q Queue: ")
70 print(Q.peek())
71 print()
72
73 Q.enqueue(4)
74 Q.print()
75
76 print("Amount of elements in queue: ")
77 print(Q.size())
78 print()
79
80 Q.dequeue()
81 Q.print()
```

```
class Queue:
    def __init__(self):
        self.queue = list()

    def enqueue(self, element):
        if element not in self.queue:
            self.queue.insert(0, element)
            return True
        return False

    def dequeue(self):
        if len(self.queue) > 0:
            return self.queue.pop()
        return ("Queue is Empty")

    def peek(self):
        if self.isEmpty():
            return "Queue is empty"
        return self.queue[0]

    def isEmpty(self):
        return self.queue == []

    def size(self):
        return len(self.queue)

    def print(self):
        print("Q Queue contains: ")
        for x in self.queue:
            print(x)
        print()

Q=Queue()
Q.print()

Q.enqueue(5)
Q.print()

Q.enqueue(3)
Q.print()
```

```
print("Amount of elements in queue: ")
print(Q.size())
print()
```

```
Q.dequeue()
Q.print()
```

```
print("Is Q Queue empty?")
print(Q.isEmpty())
print()
```

```
Q.dequeue()
Q.print()
```

```
print("Is Q Queue empty?")
print(Q.isEmpty())
print()
```

```
Q.dequeue()
Q.print()
```

```
Q.enqueue(7)
Q.print()
```

```
Q.enqueue(9)
Q.print()
```

```
print("The first element of Q Queue: ")
print(Q.peek())
print()
```

```
Q.enqueue(4)
Q.print()
```

```
print("Amount of elements in queue: ")
print(Q.size())
print()
```

```
Q.dequeue()  
Q.print()
```

Output:



```
"C:\Users\gerardo_ch\PycharmProjects\activity 2\.venv\Scripts\python.exe"
```

```
Q Queue contains:
```

```
Q Queue contains:
```

```
5
```

```
Q Queue contains:
```

```
3
```

```
5
```

```
Amount of elements in queue:
```

```
2
```

```
Q Queue contains:
```

```
3
```

```
Is Q Queue empty?
```

```
False
```

```
Q Queue contains:
```

```
Is Q Queue empty?
```

```
True
```

```
Q Queue contains:
```

```
Q Queue contains:
```

```
7
```

```
Q Queue contains:
```

```
9
```

```
7
```

```
The first element of Q Queue:
```

```
9
```

```
Q Queue contains:
```

```
4
```

Q Queue contains:

3

Is Q Queue empty?

False

Q Queue contains:

Is Q Queue empty?

True

Q Queue contains:

Q Queue contains:

7

Q Queue contains:

9

7

The first element of Q Queue:

9

Q Queue contains:

4

9

7

Amount of elements in queue:

3

Q Queue contains:

4

9