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DSALGO – IDB2

Code:

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

  def enqueue(self, element):
    if element not in self.queue:
      self.queue.insert( _index: 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())
```

```
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())
```

```
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()
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Q.print()

print("Amount of elements in queue: ")
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print()
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```
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
```