

Problem 2: Implement Queue Data Structure using Array with all functions like pop, push, top, size, etc.

```
class Queue:

    def __init__(self):
        self.queue = []

    def is_empty(self):
        return len(self.queue) == 0

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

    def enqueue(self, item):
        self.queue.append(item)

    def dequeue(self):
        if self.is_empty():
            return None
        return self.queue.pop(0)

    def front(self):
        if self.is_empty():
            return None
        return self.queue[0]

    def print_queue(self):
        if self.is_empty():
            print("Queue is empty")
        else:
            print("Queue:", self.queue)

queue = Queue()
queue.enqueue(10)
```

```
queue.enqueue(20)
```

```
queue.enqueue(30)
```

```
queue.enqueue(40)
```

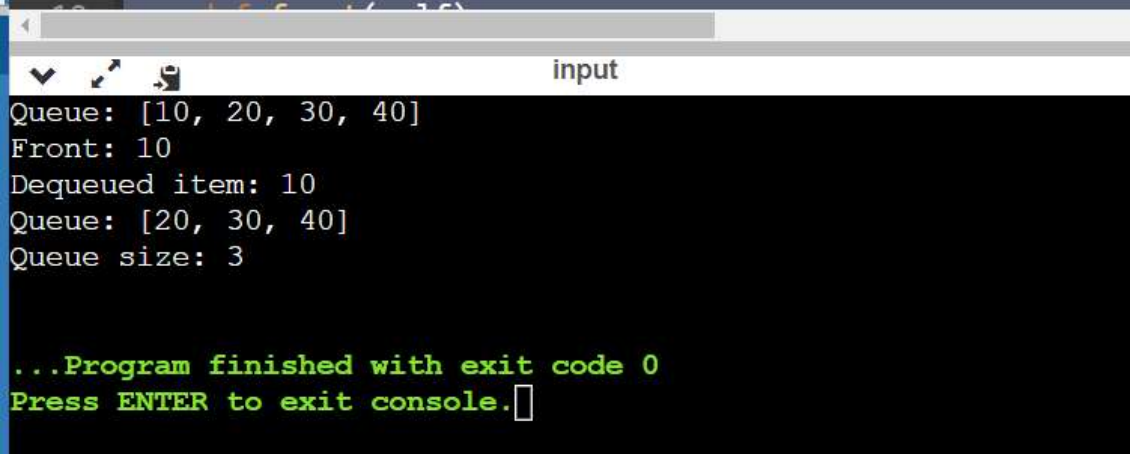
```
queue.print_queue()
```

```
print("Front:", queue.front())
```

```
print("Dequeued item:", queue.dequeue())
```

```
queue.print_queue()
```

```
print("Queue size:", queue.size())
```

A screenshot of a terminal window titled "input". The terminal has a black background with white text. It shows the output of a program: "Queue: [10, 20, 30, 40]", "Front: 10", "Dequeued item: 10", "Queue: [20, 30, 40]", and "Queue size: 3". At the bottom, it says "...Program finished with exit code 0" and "Press ENTER to exit console." with a cursor. The terminal window has a standard macOS-style title bar with a close button, a zoom button, and a window control button.

```
Queue: [10, 20, 30, 40]
Front: 10
Dequeued item: 10
Queue: [20, 30, 40]
Queue size: 3

...Program finished with exit code 0
Press ENTER to exit console.
```