CS526

Hao Wu

Assignment 2

Problem 1

(1)

In the for loop, i start from 1. Running n times in the for loop; therefore, the complexity of this method is O(n).

(2)

In this method, we could saw 3 while order. It means we have 3 for loop in this method. The complexity of this method is O(n3).

(3)

In this method, it uses the if and else blocks, i start from 0, end up to n. the complexity of this method is O(n)

(4)

In this method, the complexity of this method is O(n)

Problem 2

图示

描述已自动生成

图示

描述已自动生成

Problem 3

|  |  |  |
| --- | --- | --- |
| Operation | Return Value | Stack Contents |
| push(10) | - | (10) |
| Pop() | 10 | () |
| Push(12) | - | (12) |
| Push(20) | - | (12,20) |
| Size() | 2 | (12,20) |
| Push(7) | - | (12,20,7) |
| Pop() | 7 | (12,20) |
| Top() | 20 | (12,20) |
| Pop() | 20 | (12) |
| Pop() | 12 | () |
| Push(35) | - | (35) |
| isEmpty() | false | (35) |

|  |  |  |
| --- | --- | --- |
| Operation | Return Value | Queue Contents (first ← Q ← last) |
| Enqueue(7) | - | (7) |
| Dequeue() | 7 | () |
| Enqueue(15) | - | (15) |
| Enqueue(3) | - | (15,3) |
| First() | 15 | (15,3) |
| Dequeue() | 15 | (3) |
| Dequeue() | 3 | () |
| First() | null | () |
| Enqueue(11) | - | (11) |
| Dequeue() | 11 | () |
| isEmpty() | true | () |
| Enqueue(5) | - | (5) |

Problem 4