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 $O(n^3)$.

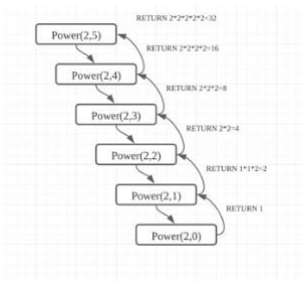
(3)

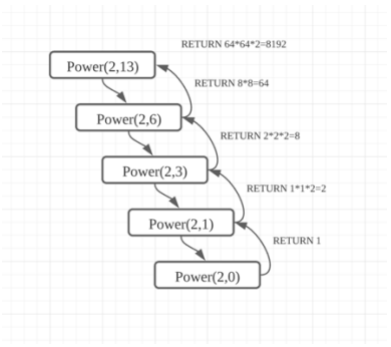
In this method, it uses the if and else blocks, i start from 0, end up to n. the complexity of this method is O(n)

(4)

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

Problem 2





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