

Homework 16

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```
//1
/**
 * Reverses ("flips") {@code this}.
 *
 * @updates this
 * @ensures this = rev(#this)
 */
public void flip() {
    if (this.length() != 0) {
        T temp = this.dequeue();
        this.flip();
    }
    this.enqueue(temp);
}

//2
/**
 * Reverses ("flips") {@code this}.
 *
 * @updates n
 * @ensures n = rev(#n)
 */
public static void flip(Queue<T> n) {
    if (n.length() != 0) {
        T temp = n.dequeue();
        flip(n);
    }
    n.enqueue(temp);
}
```

3)

$S_1 = \underline{TATACAT}$ Suffix: \emptyset Prefix: 1
 $S_2 = \underline{AGCTGTTTTCGTT}$ Prefix: \emptyset Suffix: 1
 $S_1 = \underline{AGCTGTTTTCGTTATACAT}$ Prefix: 1 Suffix: \emptyset
 $S_2 = \underline{CACTCATTTTA}$ Suffix: T Prefix: \emptyset
 $S_1 = \underline{CACTCATTTTAGCTGTTTTCGTTATACAT}$ P.O.S: 3
 $S_2 = \underline{CATTTTAGCTGTT}$ Suffix: \emptyset P: 3
 $S_1 = \underline{CACTCATTTTAGCTGTTTTCGTTATACATTTAGCTGTT}$ P.O.S: 2
 $S_2 = \underline{TTCTGTTACT}$ S: \emptyset P: 2
 $S_1 = \underline{CACTCATTTTAGCTGTTTTCGTTATACATTTAGCTGTTTCGTTATACAT}$
 $S_2 = \underline{CTGTTTTCGTTA}$ S: \emptyset P: \emptyset

Didn't know if I was supposed to actually program it, so I wrote it on paper.