

change Patties code analysis

```
line 64: if (comparison) = 1  
        65: pop() = 1  
        66: push() = 1  
        67: else (comparison) = 1  
        68: pop() = 1  
        69: pop() = 1  
        70: push() = 1  
        71: push() = 1
```

pop() = O(1)
push() = O(1)

C_{bottom}

```
74 while (!searchBottom) = 2  
    push() + pop() = 2
```

C_{search}

Search Bottom:
peek() + equals() = 2

```
77 pop() = 1  
    push() = 1  
    popTempBurger = Ctemp
```

popTempBurger:

```
if (comparason) = 1  
while (!isEmpty()) = 1  
push() + pop() = 2
```

C_{temp}

isEmpty() = 1

$$\sum_{i=1}^{n-1} C_{\text{search}} = C_{\text{search}} \sum_{i=1}^{n-1} 1 = C_{\text{search}} n - C_{\text{search}}$$

$$\sum_{i=1}^{n-1} C_{\text{temp}} = C_{\text{temp}} \sum_{i=1}^{n-1} 1 = C_{\text{temp}} n - C_{\text{temp}}$$

$$C_{\text{bottom}} + (C_{\text{search}} n - C_{\text{search}}) + (C_{\text{temp}} n - C_{\text{temp}})$$

$$C + dn - d + an - a$$

$$C = C_{\text{bottom}}$$

$$d = \cancel{C_{\text{search}}} C_{\text{search}}$$

$$a = C_{\text{temp}}$$

$$O(n) + O(n)$$

$$= O(2n)$$

$$\in O(n)$$

Final big-O of the method is $O(n)$.