MaxConsecutiveOnes.java

```
1  package SlidingWindow;
2
3  public class MaxConsecutiveOnes {
4      // Approach-1 (Simple trick)
5      public static int findMaxConsecutiveOnesApproach1(int[] nums) {
6          int n = nums.length;
7          int[] ones = new int[n];
8
9          int count = 0;
10         // Count 1s to the left of a 0
11 2       for (int i = 0; i < n; i++) {
12 1           if (nums[i] == 0) {
13                 ones[i] = count;
14                 count = 0;
15             } else {
16 1               count++;
17             }
18         }
19
20         count = 0;
21         int result = 0;
22         // Count ones to the right of a 0 and find the result at the same time
23 3       for (int i = n - 1; i >= 0; i--) {
24 1           if (nums[i] == 0) {
25 1               ones[i] += count;
26 1               result = Math.max(result, ones[i] + 1); // What if I convert this 0 to one (so adding 1)
27                 count = 0;
28             } else {
29 1               count++;
30             }
31         }
32
33 1      return result;
34     }
35
36     // Approach-2 (Using 2 pointer technique but slight improvement)
37     public static int findMaxConsecutiveOnesApproach2(int[] nums) {
38         int n = nums.length;
39         int i = 0, j = 0;
40         int count = 0;
41         int result = 0;
42 2       while (i < n) {
43 1           if (nums[i] == 0) {
44 1               count++;
45             }
46 2           if (count > 1) { // here, k = 1
47 2               count -= nums[j] == 0 ? 1 : 0; // We can decrement 0 only if we reject 0 from left window boundary
48 1               j++; // This will anyway increase
49             }
50 2           result = Math.max(result, i - j + 1);
51             i++;
52         }
53 1      return result;
54     }
55 }
```

Mutations

11	1. changed conditional boundary → KILLED 2. negated conditional → KILLED
12	1. negated conditional → KILLED
16	1. Changed increment from 1 to -1 → KILLED
23	1. negated conditional → KILLED 2. changed conditional boundary → SURVIVED 3. Replaced integer subtraction with addition → KILLED
24	1. negated conditional → KILLED
25	1. Replaced integer addition with subtraction → KILLED
26	1. Replaced integer addition with subtraction → KILLED
29	1. Changed increment from 1 to -1 → KILLED
33	1. replaced int return with 0 for SlidingWindow/MaxConsecutiveOnes::findMaxConsecutiveOnesApproach1 → KILLED
42	1. changed conditional boundary → KILLED 2. negated conditional → KILLED
43	1. negated conditional → KILLED
44	1. Changed increment from 1 to -1 → KILLED
46	1. negated conditional → KILLED 2. changed conditional boundary → KILLED
47	1. negated conditional → KILLED 2. Replaced integer subtraction with addition → SURVIVED
48	1. Changed increment from 1 to -1 → KILLED
50	1. Replaced integer subtraction with addition → KILLED 2. Replaced integer addition with subtraction → KILLED

```
53  1. replaced int return with 0 for SlidingWindow/MaxConsecutiveOnes::findMaxConsecutiveOnesApproach2 → KILLED
```

Active mutators

- CONDITIONALS_BOUNDARY
- EMPTY_RETURNS
- FALSE_RETURNS
- INCREMENTS
- INVERT_NEGS
- MATH
- NEGATE_CONDITIONALS
- NULL_RETURNS
- PRIMITIVE_RETURNS
- TRUE_RETURNS
- VOID_METHOD_CALLS

Tests examined

- SlidingWindow.MaxConsecutiveOnesTest.testApproach2(SlidingWindow.MaxConsecutiveOnesTest) (0 ms)
- SlidingWindow.MaxConsecutiveOnesTest.testEmptyArray(SlidingWindow.MaxConsecutiveOnesTest) (0 ms)
- SlidingWindow.MaxConsecutiveOnesTest.testApproach1(SlidingWindow.MaxConsecutiveOnesTest) (0 ms)

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