MaxConsecutiveOne.java

```
1  package com.example;
2
3  public class MaxConsecutiveOne {
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 3       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 4       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 1           i++;
52         }
53 1      return result;
54     }
55 }
```

Mutations

```
11  1. changed conditional boundary → KILLED
    2. Changed increment from 1 to -1 → KILLED
    3. negated conditional → KILLED
12  1. negated conditional → KILLED
16  1. Changed increment from 1 to -1 → KILLED
23  1. changed conditional boundary → SURVIVED
    2. Changed increment from -1 to 1 → KILLED
    3. Replaced integer subtraction with addition → KILLED
    4. negated conditional → 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 com/example/MaxConsecutiveOne::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. changed conditional boundary → KILLED
    2. negated conditional → KILLED
47  1. Replaced integer subtraction with addition → SURVIVED
    2. negated conditional → KILLED
48  1. Changed increment from 1 to -1 → KILLED
50  1. Replaced integer subtraction with addition → KILLED
    2. Replaced integer addition with subtraction → KILLED
```

```
51  1. Changed increment from 1 to -1 → KILLED
53  1. replaced int return with 0 for com/example/MaxConsecutiveOne::findMaxConsecutiveOnesApproach2 → KILLED
```

Active mutators

- BOOLEAN_FALSE_RETURN
- BOOLEAN_TRUE_RETURN
- CONDITIONALS_BOUNDARY_MUTATOR
- EMPTY_RETURN_VALUES
- INCREMENTS_MUTATOR
- INVERT_NEGS_MUTATOR
- MATH_MUTATOR
- NEGATE_CONDITIONALS_MUTATOR
- NULL_RETURN_VALUES
- PRIMITIVE_RETURN_VALS_MUTATOR
- VOID_METHOD_CALL_MUTATOR

Tests examined

- com.example.MaxConsecutiveOneTest.testApproach1(com.example.MaxConsecutiveOneTest) (0 ms)
- com.example.MaxConsecutiveOneTest.testApproach2(com.example.MaxConsecutiveOneTest) (0 ms)
- com.example.MaxConsecutiveOneTest.testEmptyArray(com.example.MaxConsecutiveOneTest) (0 ms)

Report generated by PIT 1.5.0