

Practice Quiz 3

CSCI 136: Spring 2022

Your name: _____

This week's quizzes cover readings, handouts, labs, and lecture materials up to and including Monday 2/21. Answer the following questions as practice for your graded quiz on Friday.

1. Consider the following java method.

```
public static int findFirstSpace(String s) {
    for(int i = 0; i < s.length(); i++) {
        if(s.charAt(i) == ' ') {
            System.out.println("Found space at i = " + i);
            return i;
        }
    }
    return -1;
}
```

(a) In the *worst case*, how many times does the `for` loop iterate? (In other words, how many times at most is the expression `if(s.charAt(i) == ' ')` evaluated?)

Your answer: _____ `s.length()` times _____

(b) In the *best case*, how many times does the `for` loop iterate? (In other words, how few times at a minimum is the expression `if(s.charAt(i) == ' ')` evaluated?)

Your answer: _____ `0 times (if the array is empty)` _____

(c) At most how many times can the text `Found space at` be printed to the terminal?

Your answer: _____ `1 time; the method returns after the print` _____

2. Write a method that *reverses* a `Vector<Integer>` called `orig`, storing the result in another `Vector<Integer>` called `flip`. Assume both vectors are instantiated and that `flip` is *empty*.

Recall that `Vector<E>` has a number of useful methods (you may not need all of these):

- `E get(int i)`: fetch the element stored at index `i`.
- `E set(int i, E obj)`: update the value stored at index `i`.
- `void add(E obj)`: add an element to the high end of the vector, possibly expanding it.
- `int size()`: determine the number of elements in the vector.

```
public static void rev(Vector<Integer> orig, Vector<Integer> flip) {

    for(int i = orig.size() - 1; i >= 0; i--) {
        flip.add(orig.get(i));
    }

}
```