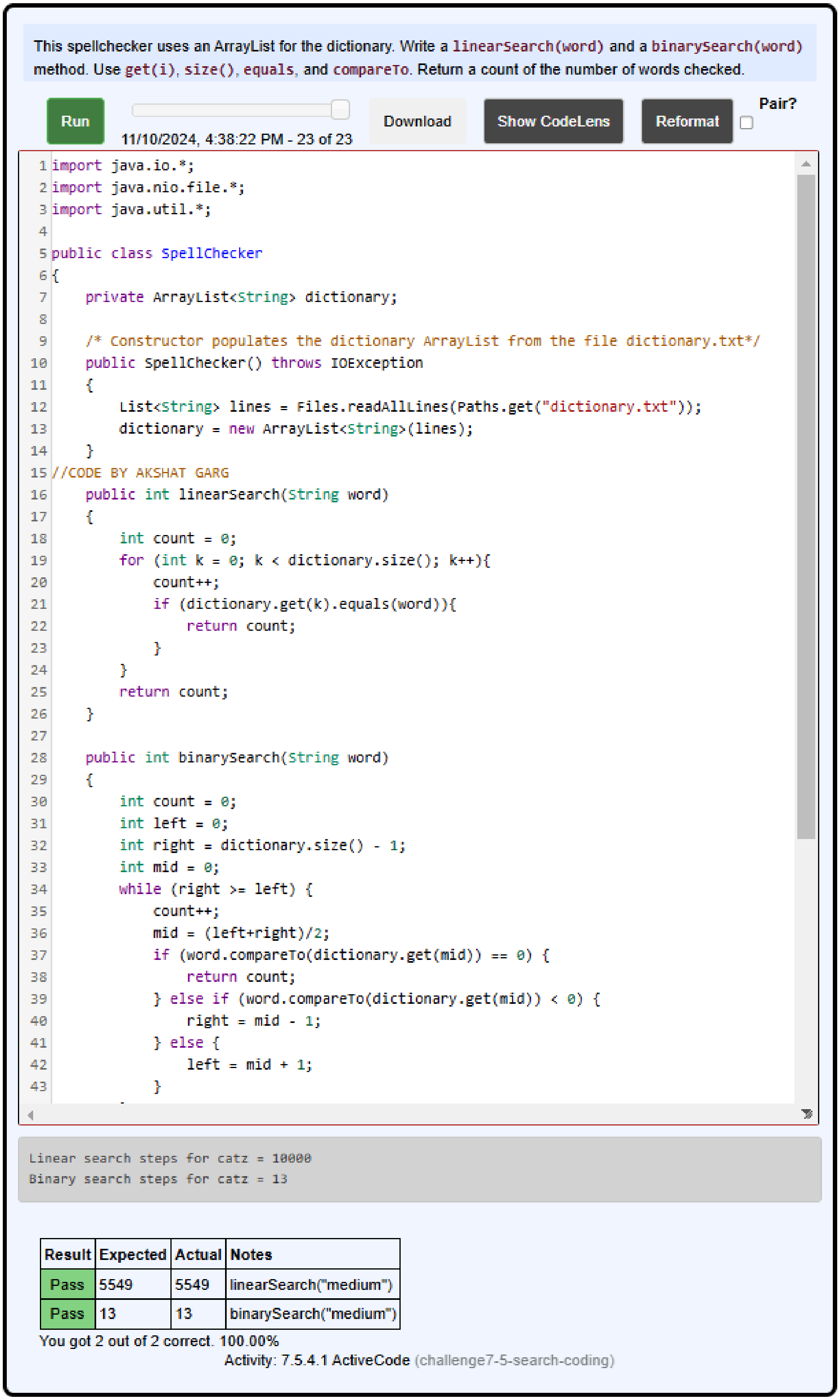

This spellchecker uses an ArrayList for the dictionary. Write a `linearSearch(word)` and a `binarySearch(word)` method. Use `get(i)`, `size()`, `equals`, and `compareTo`. Return a count of the number of words checked.

```java
import java.io.*;
import java.nio.file.*;
import java.util.*;

public class SpellChecker
{
    private ArrayList<String> dictionary;

    /* Constructor populates the dictionary ArrayList from the file dictionary.txt*/
    public SpellChecker() throws IOException
    {
        List<String> lines = Files.readAllLines(Paths.get("dictionary.txt"));
        dictionary = new ArrayList<String>(lines);
    }
//CODE BY AKSHAT GARG
    public int linearSearch(String word)
    {
        int count = 0;
        for (int k = 0; k < dictionary.size(); k++){
            count++;
            if (dictionary.get(k).equals(word)){
                return count;
            }
        }
        return count;
    }

    public int binarySearch(String word)
    {
        int count = 0;
        int left = 0;
        int right = dictionary.size() - 1;
        int mid = 0;
        while (right >= left) {
            count++;
            mid = (left+right)/2;
            if (word.compareTo(dictionary.get(mid)) == 0) {
                return count;
            } else if (word.compareTo(dictionary.get(mid)) < 0) {
                right = mid - 1;
            } else {
                left = mid + 1;
            }
```

```
Linear search steps for catz = 10000
Binary search steps for catz = 13
```

Result	Expected	Actual	Notes
Pass	5549	5549	linearSearch("medium")
Pass	13	13	binarySearch("medium")

You got 2 out of 2 correct. 100.00%

Activity: 7.5.4.1 ActiveCode (challenge7-5-search-coding)

Had a whole lineup of issues with indexing, as the steps continued it became an issue that it stopped one step too early, so I had to modify it so that the program only stops when the left and right bounds are equal, so it checks that value. Even then it wouldn’t work for regular words, and I was trying to make it work, until I realized that the words I was putting in weren’t even in the dictionary, so I was just running in circles. Had the test cases passed pretty early on so I just wasted a large amount of time.