Discoverability of Existing IDE Tools
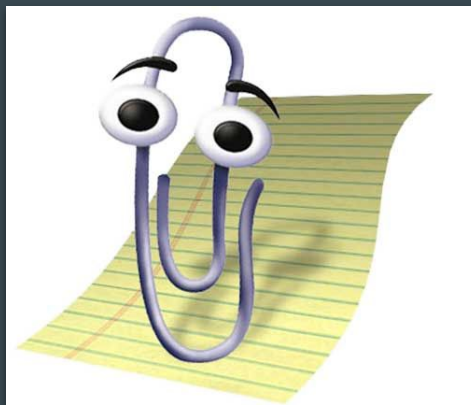
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Motivation

- Only a small subset of IDE tools typically get used

- Developers are often unaware of tools that are offered

- Difficult to find configuration menus

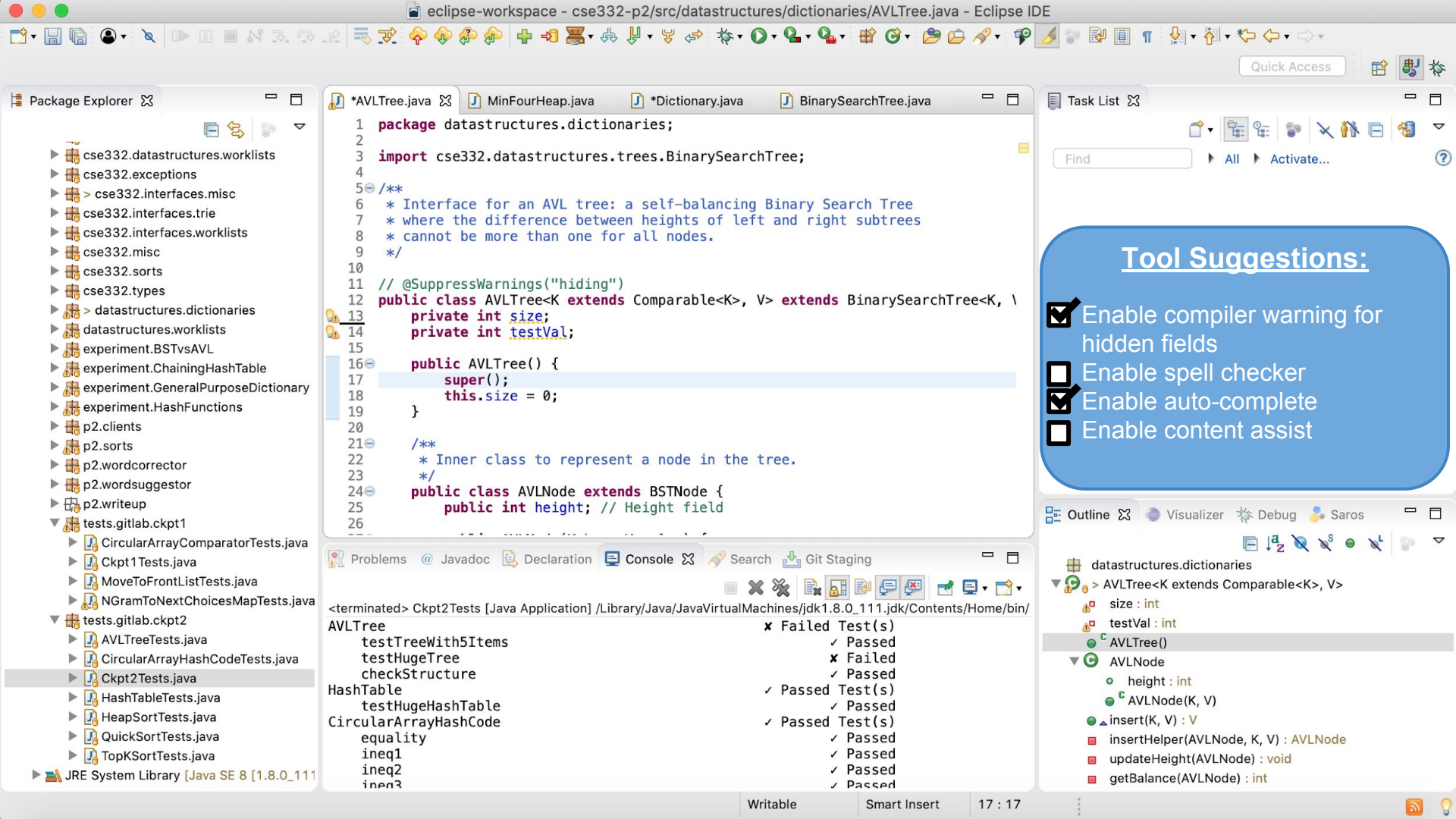- Tools should be easily customizable

Approach

- User interface identifies developers current use

- Produces suggestions and immediate links

Challenges

- Interpreting what the user is trying to do and identifying the best tool

- Rating scheme to gain immediate feedback on new tool

Quick Access

Package Explorer

- cse332.datastructures.worklists
- cse332.exceptions
- > cse332.interfaces.misc
- cse332.interfaces.trie
- cse332.interfaces.worklists
- cse332.misc
- cse332.sorts
- cse332.types
- > datastructures.dictionaries
- datastructures.worklists
- experiment.BSTvsAVL
- experiment.ChainingHashTable
- experiment.GeneralPurposeDictionary
- experiment.HashFunctions
- p2.clients
- p2.sorts
- p2.wordcorrector
- p2.wordsuggestor
- p2.writeup
- tests.gitlab.ckpt1
  - CircularArrayComparatorTests.java
  - Ckpt1Tests.java
  - MoveToFrontListTests.java
  - NGramToNextChoicesMapTests.java
- tests.gitlab.ckpt2
  - AVLTreeTests.java
  - CircularArrayHashCodeTests.java
  - Ckpt2Tests.java
  - HashTableTests.java
  - HeapSortTests.java
  - QuickSortTests.java
  - TopKSortTests.java
- JRE System Library [Java SE 8 [1.8.0_111...

*AVLTree.java | MinFourHeap.java | *Dictionary.java | BinarySearchTree.java

```java
1  package datastructures.dictionaries;
2
3  import cse332.datastructures.trees.BinarySearchTree;
4
5  /**
6   * Interface for an AVL tree: a self-balancing Binary Search Tree
7   * where the difference between heights of left and right subtrees
8   * cannot be more than one for all nodes.
9   */
10
11 // @SuppressWarnings("hiding")
12 public class AVLTree<K extends Comparable<K>, V> extends BinarySearchTree<K, \
13     private int size;
14     private int testVal;
15
16     public AVLTree() {
17         super();
18         this.size = 0;
19     }
20
21     /**
22      * Inner class to represent a node in the tree.
23      */
24     public class AVLNode extends BSTNode {
25         public int height; // Height field
26
```

Task List

Find ▸ All ▸ Activate...

Outline | Visualizer | Debug | Saros

- datastructures.dictionaries
  - > AVLTree<K extends Comparable<K>, V>
    - size : int
    - testVal : int
    - AVLTree()
    - AVLNode
      - height : int
      - AVLNode(K, V)
    - insert(K, V) : V
    - insertHelper(AVLNode, K, V) : AVLNode
    - updateHeight(AVLNode) : void
    - getBalance(AVLNode) : int

Problems | @ Javadoc | Declaration | **Console** | Search | Git Staging

```
<terminated> Ckpt2Tests [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_111.jdk/Contents/Home/bin/
AVLTree
        testTreeWith5Items                    ✗ Failed Test(s)
        testHugeTree                          ✓ Passed
        checkStructure                        ✗ Failed
HashTable                                     ✓ Passed
        testHugeHashTable                     ✓ Passed Test(s)
CircularArrayHashCode                         ✓ Passed Test(s)
        equality                              ✓ Passed
        ineq1                                 ✓ Passed
        ineq2                                 ✓ Passed
        ineq3                                 ✓ Passed
```

Writable | Smart Insert | 17 : 17