

Advanced Java– Mr. Ascione

UniquesDups – Using Sets



OBJECTIVE: This lab was designed to teach you more about how to use a Set.

BACKGROUND: A set only stores unique items. In Java, a Set is an Interface that extends Collection. TreeSet is one of the classes that implements the Set interface and we will use this to instantiate our Set objects.

FROM THE API:

`Arrays.asList()` This method acts as bridge between array-based and collection-based APIs, in combination with `Collection.toArray()`. The returned list is serializable and implements `RandomAccess`.

This method also provides a convenient way to create a fixed-size list initialized to contain several elements:
`List<String> stooges = Arrays.asList("Larry", "Moe", "Curly");`

The add method from the Set Interface:

```
boolean      add(E e)
              Adds the specified element to this set if it is not already present (optional operation).
```

SPEC: Read in a list of words/letters and determine which values are unique and which values are duplicates. Uniques are values that occur in the original list at least once. Duplicates are values that occur in the original list more than once.

Files Needed: *UniquesDups.java*
DupRunner.java

Use `split()` to split the String input into a `String[]` array.

```
String[] words = "abc cde fgh ijk".split(" ");

Set<String> set = new TreeSet<String>(Arrays.asList(words));

List<String> list = new ArrayList<String>(Arrays.asList(words));
```

Test Cases / Expected Output:

```
C:\Windows\system32\cmd.exe

Original List : a b c d e f g h a b c d e f g h i j k
Uniques : [a, b, c, d, e, f, g, h, i, j, k]
Dups : [a, b, c, d, e, f, g, h]

Original List : one two three one two three six seven one two
Uniques : [one, seven, six, three, two]
Dups : [one, three, two]

Original List : 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 6
Uniques : [1, 2, 3, 4, 5, 6]
Dups : [1, 2, 3, 4, 5]

Press any key to continue . . .
```