

3 Duplicate Iterator *Extra for Experts*

- 3.1 Fill out DuplicateIterator so that it works as used in the example main method. When given two sorted input iterators, the DuplicateIterator returns the elements that are within both iterators. Fill in the code below such that the main method executes as intended.

```
public class DuplicateIterator<T extends Comparable<? super T>> implements Iterator<T> {
```

```
    /** Sets the nextElement instance variable to the next duplicate element  
     * (or null if there is no remaining duplicate element). */
```

```
    private void findNextElement() {
```

```
}
```

```
    public static void main(String[] args) {
```

```
        Iterator<Integer> iter1 = Arrays.asList(1, 2, 4, 5, 6, 9).iterator();
```

```
        Iterator<Integer> iter2 = Arrays.asList(1, 2, 3, 5, 7, 10).iterator();
```

```
        DuplicateIterator<Integer> di = new DuplicateIterator<>(iter1, iter2);
```

```
        di.forEachRemaining(o -> System.out.print(o.toString() + " ")); // 1 2 5
```

```
}
```

```
}
```