# HOMEWORK 12

```
int deleteIfEqual(String[] theSet, String toBeDeleted) {

    if (theSet == null) {
        throw new RuntimeException("Invalid set");
    }
    if (theSet.length > 100) {
        return -1000;
    }
    int count = 0;
    for (int i = 0; i < theSet.length; i++) {
        if (theSet[i] != null && theSet[i].equals(toBeDeleted)) {
            theSet[i] = null;
            count++;
        }
    }
    return count;

}
```

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The test section approach that will be used to identify a test suite are:

**Functional testing**:

1. Test for null input
2. Test for empty array input
3. Test for valid input with no deletion
4. Test for valid input with deletion of a single element
5. Test for valid input with deletion of multiple elements
6. Test for valid input with more than 100 elements

Following a table that shows the **test cases** generated by the just mentioned specifications:

| Test suite | Test Case | Oracle | Test result |
|---|---|---|---|
| 1 | theSet = null; toBeDeleted = "apple" | RuntimeException | Pass |
| 2 | theSet = {}; toBeDeleted = "apple" | Return -1 | Pass |
| 3 | theSet = {"apple", "banana", "orange"}; toBeDeleted = "pear" | Return 0; theSet = {"apple", "banana", "orange"} | Pass |
| 4 | theSet = {"apple", "banana", "orange"}; toBeDeleted = "apple" | Return 1; theSet = {null, "banana", "orange"} | Pass |
| 5 | theSet = {"apple", "banana", "orange", "apple"}; toBeDeleted = "apple" | Return 2; theSet = {null, "banana", "orange", null} | Pass |
| 6 | theSet = {1,2,3…150}; toBeDeleted = "1" | Return -1000 | Pass |

After reviewing the code and running the test cases, we found that the error code in the specification for an array larger than the maximum size was -1000,but it should be -100. Therefore, we need to change the return value in the code from -1000 to -100. **The fixed error code** line should be:

```
    if (theSet.length > 100) {
        return -100;
}
```

For **regression testing** the test that should be rerun is test case 6.