Exercise 03: Generics

In this exercise, we will be revising the Stack and Set data structures from the last two exercises in order to implement them generically.

Task 1: Stack

The sample solution is from Exercise 1, which implements a Stack for `char`.

a) Modify the `Stack` interface and the `StackImpl` class in such a way that they are generic.
b) Then change the `StackTest` test case so that the generic classes are used.

Please note: the `PalindromeTest` test case can be adopted unchanged, but should be successful.

Task 2: Set

The sample solution is from Exercise 2, which implements a Set for String, as well as the `Duplicates` class, which finds words that occur at least twice.

a) Modify the `Set` interface and the `SetImpl` class in such a way that they are generic.
b) Then change the `SetTest` test case so that the generic classes are used.
c) Now modify the `Duplicates` class and `DuplicatesTest` so that the generic classes are used.

Please note: use the `Comparable` interface first. What changes would you have to make to work with a `Comparator` instead?