- Don't forget to set your Eclipse workspace and working set.
- You must submit the JAR file, exported (with source code), from your Eclipse project.
- You must check your JAR file to make sure all the source files (.java files) are present. It can be opened with file compression programs such as 7-zip or Winrar.
- Failure to export properly will result in your work not getting marked.

1) To submit:

   - Export your project to a JAR file, with source code.
   - Name your JAR file ID_Week06_Q1.jar. For example, 6623110021_Week06_Q1.jar
   - Submit the JAR file on MyCourseville.

Lab Stack Q1 (12 marks, will be scaled to equal to other homeworks)

Copy all files to your Eclipse project "src" folder.

You are given all classes for coding a stack.
Class StackArray and StackLinkedList are given.

Write code for the following method in class StackUtility:

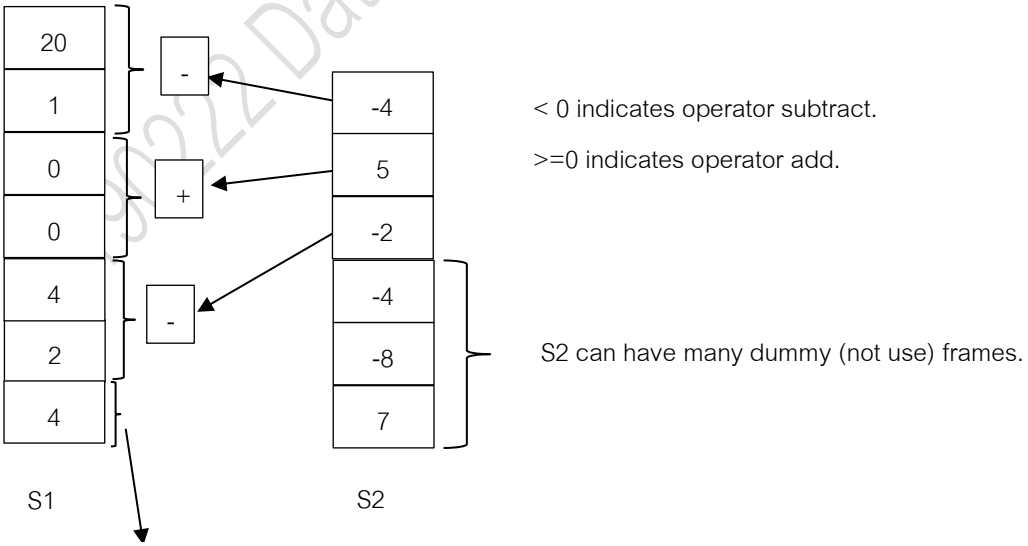
```
public static String operate(MyStack s1, MyStack s2) throws Exception {
```

This method uses 2 stacks to decode a secret word built from:

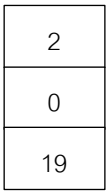
```
static String alphabets = "abcdefghijklmnopqrstuvwxyz";
```

s1 contains an incomplete representation of the word to decode. S2 contains the operations to be used on data of s1 to do the decoding. For example:

The following s1 and s2 will produce the word "cat":



By popping each 2 values from s1 and applying addition/subtraction (according to s2), we can store the result in another stack (say, s3). The above s1 and s2 will produce the following s3.



S3

Each number in s3 indicates a position in alphabets. Hence we get character at 2nd position (c), 0th position (a), and 19th position (t). Thus "cat" will be the returned string from this example.

- Your code must work on any implementation of Stack, or you will lose points.

JUnit is in StackUtilityTest.java

- testWordSimpleAdd() 1 mark
- testWordSimpleSubtract() 1 mark
- testWordSimpleSequence() 1 mark
- testWord01() 3 marks
- testWord02() 3 marks
- testWord03() 3 marks