CHRISTOPHER NEWPORT UNIVERSITY

DEPARTMENT OF PHYSICS, COMPUTER SCIENCE & ENGINEERING

CPSC 280: INTRODUCTION TO SOFTWARE ENGINEERING

* Assignment 2: JUnit Testing (Part 2) *

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Problem description at <https://projectlovelace.net/problems/el-nino-intensities/>

Write a class *ElNino* that implements the following method:

```
public static Result process(File file, int firstYear)
```

This method receives a CSV file from where to read Multivariate ENSO Index (MEI) values per bimester per year and the beginning year in a biennium from which to identify whether the biennium identifies an El Niño or La Niña (or neither) event as well as its intensity (see the webpage description for details). The method returns a *Result* object (from the class *Result* given to you and which you should not modify) holding a classification, intensity and the highest MEI value detected in the event (or 0 if no event is detected). If both El Niño and La Niña events are detected in the same requested biennium your method should return the one happening earlier. The method throws an illegal argument exception with message "invalid year: *y*" where *y* is the year given as input (*firstYear*) if it falls outside the range of years given in the data file.

In addition, write a JUnit test file named *ElNinoTest* with the aim of maximizing coverage of your implementation (among other things; follow instructions on JUnit testing assignment, part 1).

Use the file *ElNinoTest.jar* (which contains JUnit acceptance tests) to validate your solution.

Make sure to place the text file *mei_index.txt* in the source folder of your Gradle project.

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