# Assignment 2 5/10/2023

Implement the next release of your term project. You will incorporate exception handling and file I/O, as specified below.

Submit this completed Word document, including your name within the file name, observing and retaining the gray text like this. Retain the headings or edit them as indicated. Your Assignment 2 materials—in black 12-point Times New Roman—should not exceed 5 pages excluding AI generation sections, references, figures, and appendices. Use the Appendix sections for additional material if you need to. These will be read on an as-needed basis.

As you code, use JUnit tests—package-by-package, class-by-class, and method-by-method, except for trivial ones and ones requiring I/O that cannot be unit tested. Use non-Junit classes for testing the latter, as in the worked example.

Keep the evaluation criteria in mind, listed at the end and referred to in the headings. Only your value-added counts. Giving chatGPT a prompt and then copying the result into your assignment without editing has negligible value-added, for example.

We want you to develop in Eclipse preferably or else IntelliJ (talk to your facilitator about exceptions). As you code, use JUnit tests whenever possible but certainly by week 2—package-by-package, class-by-class, and method-by-method, except for trivial methods and those requiring I/O. Use non-Junit classes for testing the latter. Keep the evaluation criteria in mind, listed at the end.

Include a ReadMe file describing where to run the application from. It should also include necessary execution notes. All JUnit tests will be assumed runnable.

Leverage an AI generator as much as possible in completing this assignment unless you request an exemption in advance (which will probably be granted). For every section “>>>AI generation …”, please check “I did not …” or (preferably) expand it (click the black arrowhead at left), provide the contents, then collapse the sections (again, using the arrowhead).

## 1 SUMMARY DESCRIPTION, UPDATED AS APPLICABLE

## *EVALUATION CRITERION (i) APPLIES*

One- or two-paragraph overall description of your whole proposed term project. Edit your last description as needed.

Your response replaces this.

### >>>AI generation OR check: *I did not use AI generation here* \_\_(Please collapse before submitting.)

1. PARAGRAPH DESCRIBING YOUR VALUE ADDED TO THE AI-GENERATED MATERIAL

I improved the intent of the summary with a few edits. chatGPT’s output was too much like a marketing piece.

1. MY PROMPT SEQUENCE (ONLY)

[1]

Improve the following summary: In this strategy game, as Earth's Chief Scientist Alex, employed by the UN, you must save the Earth by managing funds and powers. You interact with governments, and through them, the public and companies, each with their own revenues, abilities to tax or be taxed, and cause or repair environmental damage. Before it is too late, you must halt the degradation of the Earth from CO2 emission and achieve global sustainability.

1. CODE OR TEXT PRODUCED BY THE ABOVE PROMPT SEQUENCE

chatGPT X

Embark on a thrilling strategy game as Alex, Earth's Chief Scientist employed by the United Nations, tasked with saving the planet by adeptly managing resources and influence. Engage with governments, the public, and corporations, each possessing unique revenue streams, taxation capabilities, and potential to either inflict or mitigate environmental damage. Race against time to curb Earth's degradation from CO2 emissions and secure global sustainability before it's too late.

## 2 I/O EXAMPLE FROM PROJECTED COMPLETED PROJECT, UPDATED AS APPLICABLE *EVALUATION CRITERION (i) APPLIES*

Provide an example of projected *concrete* output for example input, indicating how users will interact with your application. You will not be held to fulfilling exactly this—it intended to help us understand the probable direction of your application as a whole.

Your response replaces this.

## 3 REQUIREMENTS IMPLEMENTED IN THIS RELEASE NOT IMPLEMENTED BEFORE *EVALUATION CRITERION (i) APPLIES*

Your content response replaces this

### 3.1 Your title replaces this

Your content response replaces this

### 3.2 Your title replaces this

Your content response replaces this.

### 3.3 Your title replaces this

### Your content response replaces this

### 3.4 Your title replaces this

### Your content response replaces this

### 3.5 Your title replaces this (add more requirements as needed)

Your content response replaces this

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## 4 I/O EVIDENCE THAT THE ABOVE FUNCTIONALITY WAS ACHIEVED

## This typically consists of screen shots of input and output, together with text explaining their context.

Your response replaces this.

## 5 YOUR DIRECTORY

Show a screenshot of your directory. This should include a parallel directory of JUnit tests—package-by-package, class-by-class, and method-by-method, except for trivial ones.

Your response replaces this.

## 6 TECHNIQUES IMPLEMENTED

Your implementation should exploit *file IO* and *exceptions* at least once, in as natural a manner as possible. Using the headings below, explain where and how you applied these.

### 6.1 Class model and Sequence Diagram

Indicate clearly in your class model where you applied file IO and exception handling, including a user-defined exception if possible. “Enforce what you intend.” For example, make classes and members *static* or not as per their intended usage. To do this use tools, PowerPoint, or combine models as in [this RUML example](https://docs.google.com/spreadsheets/d/1vBmDVtWWh3EX0oehFFLRU0P6eR-fn4d0qVg1-XOUooM/edit?usp=sharing) (which you are free to copy, cut and paste from). Insert indications in red (as in the example) to show where the three features below apply.

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### 6.2 Code showing *file I/O*

Show the relevant code (only). It should be clear where the code is located (class and method). Specify nontrivial methods with pre- and postconditions (and examples if this clarifies).

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### 6.3 Code showing *exception*, preferably a user-defined exception

Show the relevant code (only) and explain why *exceptions* are appropriate here. It should be clear where the code is located (class and method). Specify nontrivial methods with pre- and postconditions (and examples if this clarifies).

Your response replaces this.

## 7 YOUR CODE

Unless your facilitator requests or allows another method, copy your Eclipse project to your file system, zip it, and attach it. Please contact your facilitator in advance if you want to request an exception. Specify nontrivial methods with pre- and postconditions (and examples if this clarifies). For excellent work, specify the class invariants.

Your response replaces this.

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## 8 EVALUATION OF ASSIGNMENT 2



## Appendix 1 (will be read as-needed only—add more as necessary)