ENSF 409
Winter Semester 2021
Assignment 08

Assignment Instructions

Complete and submit exercise 19.2 (Lesson 19). This assignment is due on March 15, 2021 by 5:59 PM Mountain Time.

General Instructions

Academic Integrity and Collaboration

This is an individual assignment. Your submission must be your own original work. You may not work with others to complete the assignment, although you may collaborate on exercises which are not submitted. It is not academic misconduct to ask for help on the discussion boards, but you may not copy code or complete answers from your peers.

Submission

You must submit your assignment in the specified format. Due to the number of students in the course, we are using automated grading. If your submission does not have the correct folder structure and file names, it will not be marked. This is a strict requirement.

File and directory names are case-sensitive.

You must submit your assignment to the appropriate D2L dropbox folder. You may submit multiple times before the assignment deadline, but only the last submission will be graded. Previous uploads are discarded by D2L. Therefore, each upload must be a complete submission. Do not submit multiple files across separate submissions.

The assignment must be submitted as a single zip folder named with your student ID. Furthermore, when the file is unzipped, the contents must be in a folder with the same name. You may wish to verify that your zip file has been correctly generated (includes the student ID directory, contains all files). You can do this by copying the zip file into another folder, unzip it, and examine the structure.

Within the folder with your ID number, you must create a subdirectory for each exercise within the assignment. Use lowercase and employ a _ to separate sub exercise numbers. For example, Exercise 1.3 should be in a folder `exercise1_3`.

Below is an example for submitting Assignment 1, assuming a student ID of *1234765*.

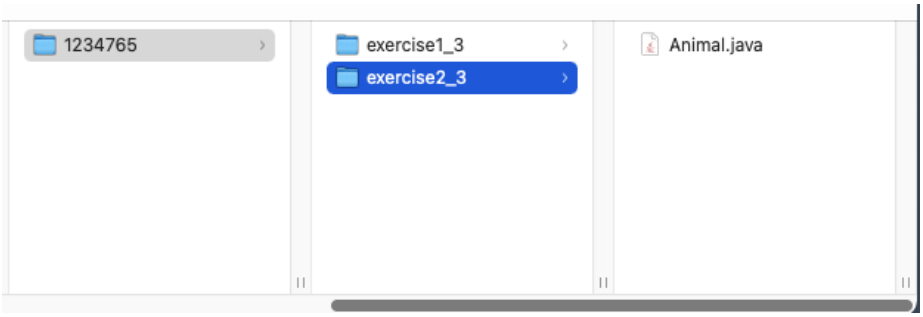

Figure 1: The folder structure for Assignment 1

```
ENSF409 > ls
1234765
ENSF409 > zip -r 1234765.zip 1234765
  adding: 1234765/ (stored 0%)
  adding: 1234765/exercise2_3/ (stored 0%)
  adding: 1234765/exercise2_3/Animal.java (stored 0%)
  adding: 1234765/exercise1_3/ (stored 0%)
  adding: 1234765/exercise1_3/Hello.java (stored 0%)
ENSF409 > ls
1234765         1234765.zip
ENSF409 >
```

Figure 2: Creating the zip file in Mac/Linux

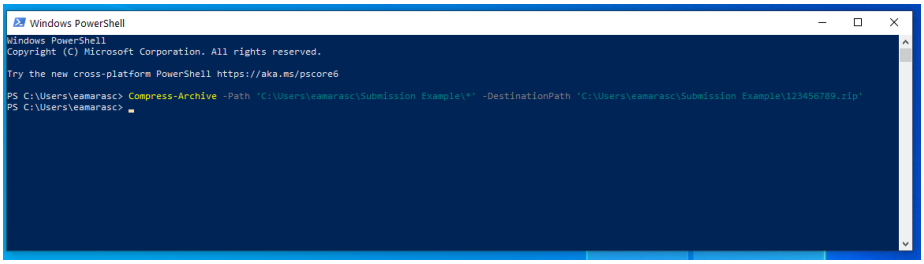

Figure 3: Creating the zip file in Windows

Evaluation

Code which does not compile will not receive any points. Your code must compile and execute correctly to receive full marks. Assignments are graded using OpenJDK 11. While we do not anticipate that any of the assignments in this course will execute differently in any version of Java from 8 on, you should use this version for optimal results.

When style conventions are introduced in lessons, all subsequent submissions should adhere to the conventions.

Deadline

All homework assignments are due at 17:59 (5:59 PM) Mountain Time. You are responsible for the conversion between Mountain Time and your local time zone, if applicable. Be aware that the switch from Mountain Standard Time to Mountain Daylight Time occurs during the term.

It is recommended that you do not leave your submission until the last minute in case of technical issues. Once the dropbox folder closes, you will not be able to submit your assignment. Late submissions will not be accepted.

If there is a technical problem and you are unable to submit via the dropbox, do not email your assignment. The University of Calgary email system will remove zip files. Instead, you may email a link to download your .zip folder from OneDrive. The email must be received by Dr. Barcomb and Dr. Marasco before the assignment deadline and the OneDrive folder should not show any changes to the .zip file after the deadline has passed.

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Exercises - Lesson 19

The following exercises are described in the video for Lesson 19.

Exercise 19.1

1. Modify the code presented in 01_ByteStream to use character-based streams

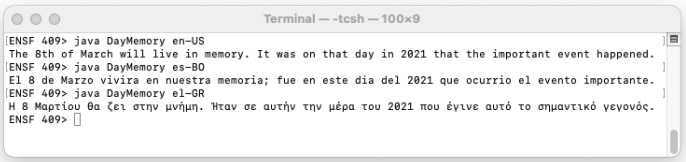
- FileReader is similar to FileInputStream
- FileWriter is similar to FileOutputStream

Exercise 19.2

1. Create a program which can provide a formatted string in multiple languages
2. You can assume that any data files used in grading will contain valid data
3. Three Java files with comments describing methods are provided, along with three data files
4. You may need to create additional classes and member and/or class data
5. Part of this exercise is identifying the appropriate class to use for each part of the problem

The following code in main() – after instantiating a Translator object – produces the output shown below.

```
System.out.println(trans.translate(3, 8, 2021));
```



Tip: The exercise can be solved without any I/O classes other than those referenced in this lecture, but you may need to read additional documentation.

Tip: If you are having trouble with the Greek example, ensure that your filesystem has not quietly changed the file type.

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Exercises - Lesson 20, Part 1

The following exercises are described in the video for Lesson 20, Part 1.

Exercise 20.1

1. Download and install MySQL on your computer
2. Follow the tutorial to practice basic operations using the command line

- Follow the download and installation instructions for MySQL
  - https://dev.mysql.com/doc/mysql-getting-started/en/
  - Community release (free)
  - MySQL Workbench is optional
  - Depending on your system, it may all be included
- Follow along with the "Some Basic Operations with MySQL" tutorial
  - Also demonstrated in this video
  - Use the MySQL command line client
  - Try each SQL statement in the tutorial
  - Create another user (this will be helpful later!)

Tip: Follow along with the demonstration in the Lesson 20, Part 1 video.

Important: Don't forget the passwords that you choose for the root account and for each user!