Setup Instructions
Programming Merit Badge

Badges at Barton, 2023

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Overview

- Thank you for your interest in the Programming merit badge!
- You'll need to bring a laptop, and have setup the necessary software ahead of time in order to take the merit badge.
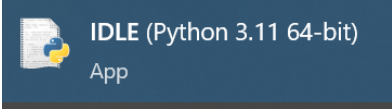- We'll learn about, and use, these programming languages:

JavaScript

Download files from GitHub

- The files that you'll need are hosted on the instructor's GitHub page:
  - https://github.com/jonesdj0705/Programming-merit-badge
- In this page, click **`<> Code ▾`** , and then `Download ZIP` . Put the .zip file in a location that you'll easily be able to get to (e.g. your Desktop).
- Extract the .zip file in a location that you'll easily be able to get to (e.g. your Desktop)
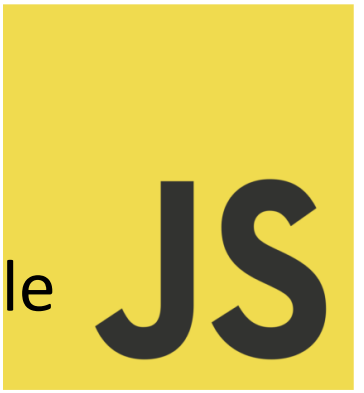 - If you're not sure how to do that, here's a quick tutorial: https://www.youtube.com/watch?v=r9hpiyzOOTY

Python

- Go to Python.org's downloads page, and download the latest version of Python: https://www.python.org/downloads/
  - Check the "Add Python 3.XX to PATH" box on the first screen of the installer!
- For this course, we'll write and run Python code using Python IDLE (basic text editor and shell that comes with Python). Find and open IDLE.
- The files that you downloaded from the GitHub page will have a folder called "Python". Go into that folder, and there will be a file called "test_idle.py". Open "test_idle.py" in IDLE, and then press F5 (Run Module). The "IDLE Shell" window should pop up and show this:

```
I can't wait
to take the
Programming merit badge!
>>>
```
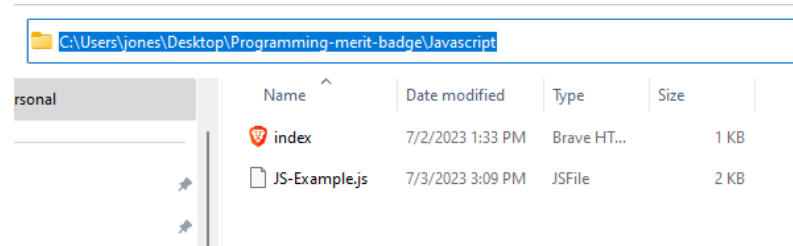
JavaScript

- JavaScript is used in building websites, so web browsers (i.e. Google Chrome, Mozilla Firefox, etc.) can run it!

- We'll use Notepad++ as our editor for JavaScript. You can download and install it from here: https://notepad-plus-plus.org/downloads/

- If your laptop doesn't have one already, download an install any web browser of your choice:
  - Google Chrome: https://www.google.com/chrome/
  - Mozilla Firefox: https://www.mozilla.org/en-US/firefox/
  - Brave: https://brave.com/download/
  - Microsoft Edge: https://www.microsoft.com/en-us/edge/download?form=MA13FJ&ch

JavaScript (cont'd)

- Find the files that you downloaded from the GitHub page. Enter the file path to the files into a new tab in your browser.
  - E.g. The instructor saved their files on their desktop, and here's the filepath for those files: C:\Users\jones\Desktop\Programming-merit-badge\Javascript
  - In Windows, if you're in the correct folder, you can click this top bar to get Windows to select the filepath. Then copy this string of text.

- With the filepath in your browser's address bar, type in "\index.html" (or "/index.html") and hit Enter. You should see this page come up in your browser:

Java

- Note: Java is <u>not</u> the same thing as JavaScript! (we'll learn about this during the course)

- Download and install the Java Development Kit (JDK): https://www.oracle.com/java/technologies/downloads/

- Download and install Eclipse: https://www.eclipse.org/downloads/
  - Eclipse is an "integrated development environment" (IDE). It has the editor and terminal built into the same app! We'll be able to compile and run the code directly in the same software as the editor.
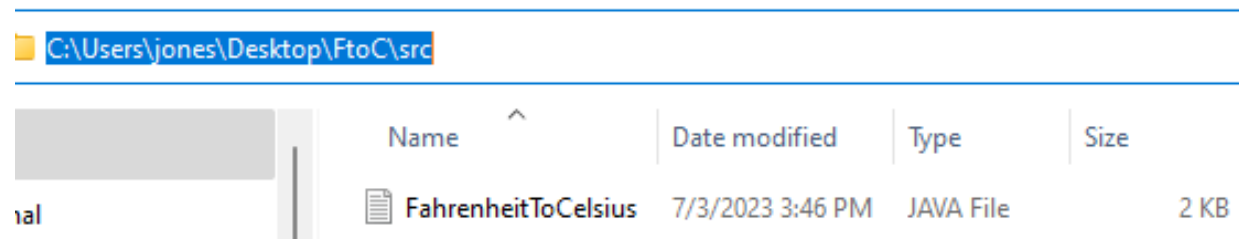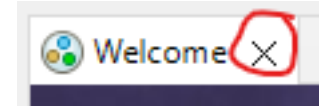
Java (cont'd)

- During setup, select this option:

Eclipse IDE for Java Developers

The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Maven and Gradle integration

- When prompted to "select a directory as workspace", click "Browse…" and set the workspace directory to be one that you can easily fine (e.g. the Desktop).

- Open Eclipse, and go to "File" -> "New" → "Java Project". Give it the project name: "FtoC". Uncheck the "Create module-info.java file" box. Click "Finish". Close the "Welcome" tab in Eclipse. Welcome ⊗

- Find "FahrenheitToCelcius.java" in the files from the GitHub page (in the Java folder). Find the folder "…/FtoC/src", and paste the file there. E.g.

C:\Users\jones\Desktop\FtoC\src

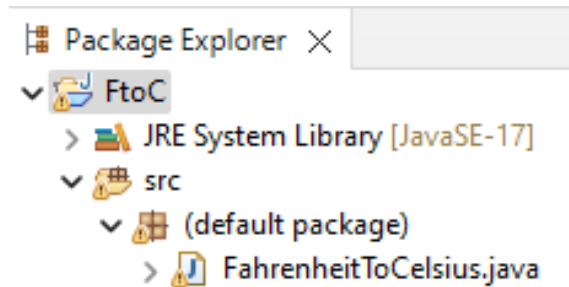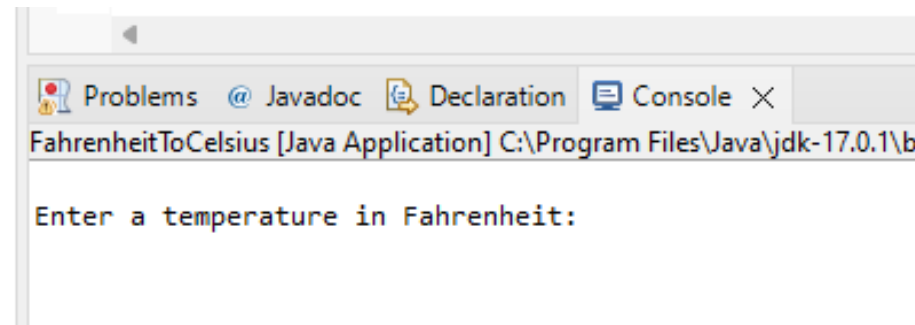| Name	Date modified	Type	Size
FahrenheitToCelsius	7/3/2023 3:46 PM	JAVA File	2 KB

Java (cont'd)

- On the left side of the page in Eclipse, right click on "FtoC" (in the Package Explorer tab) and click "Refresh". Then, expand the carrots. It should look like this:

- Double-click "FahrenheitToCelcius.java" to bring it open in Eclipse.

- Click "Run" -> "Run", or click towards the top of the page. You should see this at the bottom of the page:

Summary

- If you've gone through each of those steps, congratulations! You've taken the first steps to earning the Programming merit badge!
- Thank you, and I'm looking forward to working with you on the Programming merit badge!