Class #1

Choose an editor: notepad++

Choose a shell: Git bash (to kill a shell, “CTR + Z” then “Enter”)

Syllabus:

1. Syllabus
2. Guidelines
3. Assessment
4. Schedule
5. Start here
6. Git

Class #2

1. Brief history of SWE
2. Hello.py
3. Collatz
4. Assertions.py
5. Make tutorial (more time)

Class #3

1. Project #1
2. Git and Gitlab tutorial (more time)

Class #4

1. Unit Tests
2. Project #1 continued
3. GitLab-CI.yml
4. Collatz.py (Kernel)
5. RunCollatz.py (Run Harness)
6. TestCollatz.py (Test Harness)

Class #5

1. Project #1
   1. Structure:
      1. Manually created files:
      2. RunCollatz.out

a. This file represents acceptance tests and must have correspondence with RunCollatz.in.

b. Can be created using the online Collatz calculator:

https://www.uvatoolkit.com/problemssolve.php

* + 1. TestCollatz.out.

This file must be copied from TestCollatz.tmp by the end of project.

* 1. Cache

**lazy cache** caches values upon requests

**eager cache** caches before all requests

**meta cache**

1. SPOJ

Class #6

* IsPrime.py
  + Introduce the concept of prime numbers
  + test cases (test first approach)
  + create a function to test if an input is prime (returns true for prime, false otherwise)
* Exceptions (IntExcept.py, IntExcept1.py)

Class #7

* Submission instructions for Project#1.
* Exceptions (revisited). NatExcept.py, NatExcept1.py, Exceptions.py)
* Factorial (show FactorialT.py, and ask the students to build their own factorial function).

Class #8:

* Project #2.
* Reduce
* Types in Python.

Class #9:

* Reduce
* Iterations

Class #10:

* RMSE
* Yield
* Map
* Comprehension