WIT: Python Debugging

Mon - Fri, April 13 - 17
4:30pm - 6pm
Zoom ID: 596-783-121

Day 1 - Introductions and Systems Ready

Day 2 - Intro to Python Debug Library (pdb)

Day 3 - Debug a Function with pdb

Day 4 - Debug a Class with pdb

Day 5 - Debug a Pygame Program with pdb

[TOPIC OF THE DAY] *[TIME FRAME]*

Example Lesson *8am - 10am*

Day 1 - Introduction

[INSERT INSTRUCTIONAL OBJECTIVE / GOAL OF THE DAY HERE]

[INSERT LEARNING OBJECTIVES OF THE DAY HERE]

Registration & Attendance: - 10 mins **- Franco**

- Register for the workshop on coursestorm
- Spreadsheet
- Google Classroom

Class Introductions - 15 mins

- Myself & Class
- Name, School & Grade, and Favorite Color

Python Review - Self-Assessment Kahoot - 20 mins

- If you did poorly, reference them to links for refreshment
    - If poorly is due to not remembering small details, then we still good
    - If poorly because never heard of concept before, we not good and suggest either spectator or sitting out
- Additionally, you can set up a time that evening or next day morning to refresh (Miguel might help?)

Software check: - 10 mins

- Google Classroom
    - Assignments up and working; thumbs up
- Online Python IDE
    - Have everyone print their name; thumbs up when done
- Don't deal with issues in-class, handle it out of class
    - Provide a temporary solution (python compiler online; no pdb needed today)
    - If you need support meet with Monica GL individually outside of the workshop

Review Python (lesson & activities) - 30 mins

- If-else
    - Lesson - 3 mins
    - Exercise - 7 mins
- for-loops
    - Lesson - 3 mins
    - Exercise - 7 mins
- functions
    - Lesson - 3 mins
    - Exercise - 7 mins

Closing - 5 mins

- Preview tomorrow (overview / outline)
- Any last q's can stay after class

T: 90 mins

Day 2 - Intro to Python Debug Library (pdb)

[INSERT INSTRUCTIONAL OBJECTIVE / GOAL OF THE DAY HERE]

[INSERT LEARNING OBJECTIVES OF THE DAY HERE]

Registration & Attendance: - 15 mins

- Who is not registered on the spreadsheet? Who is not on Google Classroom?
- Spreadsheet
- Join Repl.it Workspace with your email

- Stoke Time - 20 mins
- Can you whiteboard with your eyes closed?

Intro to python debug library (pdb) - 15 mins

- solve and debug for-loops
- Contrast: Typical troubleshooting vs pdb
- Online resources
    - StackOverflow - Top place for solutions
    - Python3 - Top place for documentation
    - W3School - Top place for learning
    - Google - Top place for anything!

pdb exercises - 35 mins

- debug - for-loops and if-else - 20 mins
- solution - 15 mins

Closing - 5 mins

- Preview tomorrow (overview / outline)
- Any last q's can stay after class

T: 90 mins

Day 3 - Debug a Function with pdb

[INSERT INSTRUCTIONAL OBJECTIVE / GOAL OF THE DAY HERE]

[INSERT LEARNING OBJECTIVES OF THE DAY HERE]

Registration & Attendance: - 5 mins

- Who is not registered on the spreadsheet? Who is not on Google Classroom? Repl.it?
- Spreadsheet
- Join Repl.it Workspace with your email

Stoke Time - 15 mins

Quick review of pdb - 10 mins

- Cheat sheet

Practice pdb on a function - 55 mins

- Instructions - 5 mins
- Easy challenge
    - Work time - 10 mins
    - Solutions - 5 mins
- Medium challenge
    - Work time - 10 mins
    - Solution - 5 mins
- Hard challenge
    - Work time - 15 mins
    - Solution - 5 mins

Closing - 5 mins

- Preview tomorrow (overview / outline)
- Any last q's can stay after class

T: 90 mins

Day 4 - Debug a Class with pdb

[INSERT INSTRUCTIONAL OBJECTIVE / GOAL OF THE DAY HERE]

[INSERT LEARNING OBJECTIVES OF THE DAY HERE]

Registration & Attendance: - 5 mins

- Who is not registered on the spreadsheet? Who is not on Google Classroom?
- Spreadsheet

Register on Repl.it Classroom! - 10 mins

- Link: https://repl.it/classroom/invite/pJO94Fo
- Overview the system and demo procedure

Stoke Time - 10 mins

Practice debugging a class - 70 mins

- Easy
    - Instructions - 2 mins
    - Practice - 5 mins
    - Solutions - 3 mins
- Medium
    - Instructions - 5 mins
    - Practice - 15 mins
    - Solutions - 10 mins
- Hard
    - Instructions - 5 mins
    - Practice - 15 mins
    - Solutions - 10 mins

T: 95 mins

Day 5 - Debug a Pygame Program with pdb

[INSERT INSTRUCTIONAL OBJECTIVE / GOAL OF THE DAY HERE]

[INSERT LEARNING OBJECTIVES OF THE DAY HERE]

Registration & Attendance: - 10 mins

- Who is not registered on the spreadsheet? Who is not on Google Classroom? Repl.it
- Spreadsheet

Pygame vs no pygame - 10 mins

- We will have two breakout sessions:
    - Those with pygame in computer, go with Monica
    - Those without pygame, go with Franco
- Those with pygame will get code from Repl.it, then debug and troubleshoot in their own computer
- Those without pygame will code from Repl.it, and Franco will test your code on his own computer and share screen
- We will come back to one session to review solutions

Instructions on pygame Project - 10 mins

- Demo the bouncing ball simulator - 3 mins
- Go over Repl.it coding procedure - 7 mins
    - Instructions in the assignment itself

Work time - 60 mins

- Easy
    - Work - 10 mins
    - Solution - 5 mins
- Medium
    - Work - 10 mins
    - Solution - 5 mins
- Hard
    - Work - 20 mins
    - Solution - 7 mins

Closing - 3 mins

- Thank everyone
- Coding mindset
- What's next in WIT
    - Xinampa
    - Intro to Code
    - UX/UI Design