

Embedding Social and Civic Responsibility in Introduction to Computer Science: Coding with Conscience

Basics

Conditionals & Loop:
Loan Approval

Functions:
Online Shopping

Dataset:
Health Care

Loan Approval
System



worse.py



bad.py



better.py



good.py

The loan approval theme prompts students to reflect on the ethical considerations of the different implementations of loops and conditionals with real-world relevance.

Progression from worse.py to good.py creates a scaffolded journey to expose students to both bad and good practices.



Reflections

Reflective questions in both the assignment code and class activities compels students to consider social and civic responsibilities.



loops.py



conditional.py

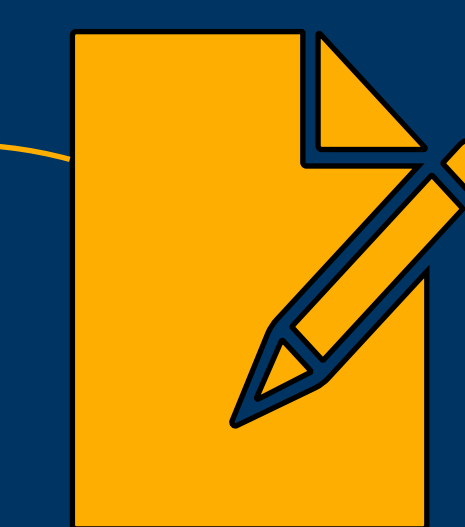


lab.py

In class code walkthroughs coupled with independent lab worksheet supports a gradual increase of student's engagement. Additional real-world connections further encourages students to consider ethical and social dimensions independently.

Follow Through
Codes & Lab

Assignment
Write up



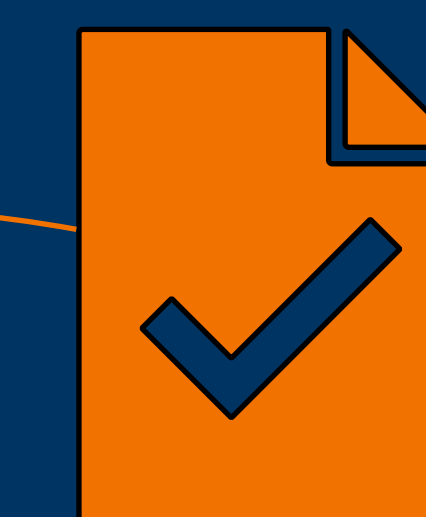
Write Up

Assignment writeup highlights the real-world connection of the code assignment, explaining the importance of programming a "consumer-friendly" environment (as opposed to encouraging unhealthy / irresponsible consumer habits)

Assignment

In Class
Assignment

Testing



Pylint

Enforces code quality and readability, teaching student the importance of consistent style.



Pytest

Pytest automated student code checking, designed to give immediate and automated feedback helps students build good habits for debugging and validation.



Coverage

Coverage ensures comprehensive testing for pytest by considering edge cases and completeness of the code content and code output.