IT 3883 Final Exam

Introduction

For this exam you are asked to follow an abridged form of the software development lifecycle, consisting of two “sprints”. Each sprint will consist of the following stages:

- Requirements
- Design
- Implementation
- Testing

For each stage, you will be asked to create or update a type of project documentation or source code. Please see the list of deliverables below for more information.

Problem Description

Write a python program that will interpret pseudo-English statements describing an amount of money in coins and convert them into a dollar amount.

Input

Each sentence will follow the standard rules of English grammar, the only exception being the omission of the ending punctuation. The format of a sentence will consist of a quantity and a denomination. The quantity will always be a numeral and the denomination will always be a word.

Output

Each output should be an amount listed in dollars

Test Cases

- 1 penny and 2 nickels -> 0.11
- 4 dimes and 7 quarters -> 2.15
- 1 quarter and 3 pennies -> 0.28
- 21 pennies and 17 dimes and 52 quarters -> 14.91
- 95 dimes and 73 quarters and 22 nickels and 36 pennies -> 29.21
- 1 nickel and 17 quarters -> 4.30
- 21 nickels and 15 pennies -> 1.20
- 1 dime and 1 nickel and 1 penny and 1 quarter -> 0.41

Feel free to include any other test cases you think would be appropriate.

Deliverables

- Sprint 1
    - Requirements – Please select *one* of the following:
        - A list of requirements with sufficient detail to ensure the correct problem is solved.
        - A set of user stories that include details about user input and output.
    - Design – Please select *one* of the following:
        - An algorithm written in pseudocode.
        - A flow chart showing each of the steps followed by the program.
    - Implementation
        - Your source code with comments
    - Testing
        - A list of the test cases you ran and if they passed or failed.
        - A short summary of any bugs you found and under what conditions they occur.
- Sprint 2
    - Corrected Requirements
        - A corrected version which reflects any changes made.
    - Corrected Design
        - A corrected version which reflects any changes made.
    - Corrected Implementation
        - Your corrected source code with comments
    - Testing
        - A list of the test cases you ran and if they passed or failed.
        - A short summary of any bugs you found and under what conditions they occur.

Your Submission

Your submission should be in the form of a zip folder containing each sprint deliverable. Each document should be clearly named and reflect which sprint it belongs to. All source code should be in the form of a python source file and all other documents should be Microsoft word documents of PDFs. **You should submit everything via Github homework repository and let TA and I know your Github link via D2L.**