RIT-Dubai Spring 2024

GCIS-123
Class Activity & Problem Solving #02
Currency Converter
Due date: Wednesday 28th Feb 2024

Activity Overview:

Learning Objective: This activity provides an opportunity to apply your Python programming skills to a real-world problem in the domain of currency conversion. By completing this activity, you will gain practical experience of using python basic constructs in designing and implementing software solutions and enhance your ability to develop user-friendly applications.

Introduction: Your task is to develop a simple currency converter program in Python. The program should allow users to convert currency values between United Arab Emirates Dirham (AED), Euro (EUR), British Pound (GBP), and US Dollar (USD). You are required to design and implement the program based on the provided description.

Activity Components

1. Understanding the Requirements:

- Your activity involves creating a Python program that facilitates currency conversion between AED and other major currencies.
- The program should present users with a menu allowing them to choose the direction of conversion (AED to other currencies or other currencies to AED).
- Users should be prompted to enter the amount they want to convert and select the currency they want to convert to/from.

2. Designing and Implementing the Solution:

- Design a modular solution that consists of functions to perform currency conversion operations.
- Write Python functions to perform currency conversion operations. These functions should handle conversion between AED and Euro, British Pound, and US Dollar, as well as conversion from other currencies to AED.
- Implement a main function that presents users with a menu to select the conversion direction and guides them through the conversion process.

3. Implementation Requirements:

- The user interface should provide clear instructions and options for selecting the conversion direction and entering currency amounts.
- Use constants to represent conversion rates between currencies. Constants should be defined for conversion rates from AED to Euro, British Pound, and US Dollar, as well as conversion rates from these currencies to AED.
- Your solution should include the following functions with the given signatures:

➢ For AED to other currencies menu option:
  - def aed_to_eur(money):
  - def aed_to_britishPound(money):
  - def aed_to_dollar(money):

➢ For other currencies to AED menu option:
  - def dollar_to_aed(amount):
  - def britishPound_to_aed(amount):
  - def eur_to_aed(amount):

Activity Evaluation:

Rubrics

Usage of functions and accuracy of currency conversion operations (20%)	20 points
Effectiveness of Conditions, loop and constants (40%)	40 points
Code structure, readability, and DocStrings (20%)	20 points
Correct submission of files on MyCourses and Github (20%)	20 points

Sample Run:

Sample Run 1	" Main Menu" Welcome to Currency Converter --------------------------------- Select the conversion direction: 1. AED to other currencies 2. Other currencies to AED 3. Exit Enter your amount you want to convert: 100 Enter your choice (1/2/3): 1 1. AED to Euro (EUR) 2. AED to British Pound (GBP) 3. AED to US Dollar 4. AED to Exit Enter the Sub choice of currency 3 100 AED is equal to 27.0 USD Do you want to continue (y/n):y " Main Menu" Welcome to Currency Converter --------------------------------- Select the conversion direction: 1. AED to other currencies 2. Other currencies to AED 3. Exit Enter your amount you want to convert: 10 Enter your choice (1/2/3): 2 1. Euro (EUR) to AED 2. British Pound (GBP) to AED 3. Dollar to AED 4. Exit Enter the Sub choice of currency 2 10 British Pound is equal to 50.0 AED Do you want to continue (y/n):n Program is exit
Sample Run 2	" Main Menu" Welcome to Currency Converter --------------------------------- Select the conversion direction: 1. AED to other currencies 2. Other currencies to AED 3. Exit Enter your amount you want to convert: 3 Enter your choice (1/2/3): 3 Program is exit

Submission Instructions

1. Be sure to replace yourGroupNumber-activity2.py by your group number (e.g., for group 1, your module's name will be *group1-activity2.py*).

2. You are not allowed to use any concepts not explained in class this term. Otherwise, -50% will be applied.

3. For late submission, 10% of the work's assigned mark will be deducted, for every calendar day without exception, for a maximum of 2 days, after which it will be graded as zero.

4. Include the appropriate internal-documentation (i.e. comments & docstring) for each function you implemented in this work.

5. Include the docstring for your module (i.e. yourGroupNumber-activity2.py). This docString should include first, the names of all the members of your group, Second, the contribution of each member to this activity and then the description of your module briefly.

6. Upload **ONLY the required file** to the MyCourses Assignment box as (yourGroupNumber-activity2.zip). Otherwise -3 % will be applied (only one team-member needs to submit to MyCourses).

7. Be sure that you have pushed **ALL the file** to your GitHub classroom repository (**for each group**). All the members should commit to this repository- at least two commits per student. Otherwise -10% will be applied. DON'T WAIT UNTIL THE LAST DAY TO CHECK YOUR GITHUB AND FIX YOUR PROBLEMS.

8. **Reminder:** Note regarding group work/group projects: all students in a group are considered a single unit and will be held accountable for any offense perpetrated by the group as a whole or an individual member of that group. Note that there should be no distinction in cheating incidents between the student that provided the material and the student that received the material. Both must receive the same consequences.