08 Team Activity: Dictionaries

Instructions

Work as a team as explained in the instructions for the lesson 2 team activity.

Problem Statement

The Church of Jesus Christ of Latter-day Saints uses lots of computer technology to collect and store family history data, including data about individuals and marriages. Interestingly, the data about individuals must be stored separately from the data about marriages because some individuals get married multiple times. However, in order to make the data understandable to people, when a person views marriage data, a program must combine the marriage data and the individual data.

Helpful Documentation

- The preparation content for the previous lesson explains how to retrieve an element from a list.
- The preparation content for this lesson explains how to find an item in a dictionary and how to process all the items in a dictionary.

Assignment

As a team, write a Python program that stores data about individuals in one dictionary and stores data about marriages in a different dictionary. Your program must combine the data in the two dictionaries and print the combined data so that it is understandable to a user. Start your program by downloading and saving the `family_history.py` Python file and then open it in VS Code and complete the Core Requirements.

Core Requirements

1. Within your program, the `print_death_age` function must print the name and age at death for each person in the people dictionary.
2. The `count_genders` function must count and print the number of males and the number of females in the people dictionary.
3. The `print_marriages` function must print the following for each marriage in the marriages dictionary:
    a. The name and age in the wedding year of the husband

   b. The year of the wedding
   c. The name and age in the wedding year of the wife

Stretch Challenges

If your team finishes the core requirements in less than an hour, complete one or more of these stretch challenges. Note that the stretch challenges are optional.

1. Add code to the `print_death_age` function that prints the birth year and death year for each person.

2. Add to your program a function named `count_marriages` that counts and prints the number of marriages that each person had in his or her lifetime. According to the data, who married the most times?

Testing Procedure

Verify that your program works correctly by following each step in this testing procedure:

1. Run your `family_history.py` program and verify that it prints the same results as shown below.

```
> python family_history.py
Ages at Death
Lola Park 43
Savanna Foster 49
Tiffany Hughes 58
Ignacio Torres 65
Yasmin Li 15
Trent Ross 52
Samyukta Nguyen 57
Joel Johnson 76
Whitney Nelson 66
Khalid Ali 55
Davina Patel 85
Enzo Ruiz 0
Lauren Smith 2
Lucas Ross 53
Jamal Gray 21
Fatima Soares 86
Ephraim Foster 54
Peter Price 46
Rosalina Jimenez 81
Rachel Johnson 64
Vanessa Bennet 80
Jose Castillo 47
Liam Myers 48
Isabella Lopez 52
Megan Anderson 36

Genders
Number of males: 12
Number of females: 13
```

```
Marriages
Ignacio Torres 18 > 1711 < Tiffany Hughes 22
Trent Ross 17 > 1722 < Savanna Foster 48
Ignacio Torres 31 > 1724 < Tiffany Hughes 35
Samyukta Nguyen 57 > 1774 < Whitney Nelson 17
Joel Johnson 51 > 1775 < Whitney Nelson 18
Joel Johnson 68 > 1792 < Davina Patel 17
Khalid Ali 45 > 1804 < Whitney Nelson 47
Khalid Ali 49 > 1808 < Davina Patel 33
Jamal Gray 20 > 1830 < Fatima Soares 18
Lucas Ross 53 > 1853 < Fatima Soares 41
Peter Price 27 > 1859 < Davina Patel 84
Ephraim Foster 44 > 1875 < Fatima Soares 63
Jose Castillo 21 > 1905 < Vanessa Bennet 25
Jose Castillo 33 > 1917 < Rachel Johnson 41
Liam Myers 23 > 1925 < Isabella Lopez 18
Jose Castillo 41 > 1925 < Rosalina Jimenez 50
Jose Castillo 44 > 1928 < Megan Anderson 19
```

Sample Solution

Please work diligently with your team for the one hour meeting. After the meeting is over, please compare your solution to the sample solution [↓] and the stretch solution [↓]. Please ***do not look at the sample solutions*** until you have either finished the program or diligently worked for at least one hour. At the end of the hour, if you are still struggling to complete the assignment, you may use the sample solution to help you finish.

Submission

When you have finished the activity, please report your progress via the associated I-Learn quiz. When asked about which of the requirements you completed, feel free to include any work done during the team meeting or after the meeting, including work done with the help of the sample solution, if necessary. In short, report on what you were able to accomplish, regardless of when you completed it or if you needed help from the sample solution.