Chase Verbout
CS162

Algorithm for the second programming assignment in CS 162

This program will allow Universities to encode how they offer courses and help user's decipher what those course offering designators mean. It will read in designators for the following class activities: Lecture (Lec), Lab (Lab), Exams (Ex), and Course Materials (Mat). The designators are: R for remote, AA for attend anywhere, N for non-occurring, and if no designator is listed, then in-person is expected.

1) Welcome the user
    a) Display welcome message
    b) "Hello, welcome to the Class Encoder!"
2) Explain how the program works
    a) Display explanation
    b) "You will enter in a class and its designations as a single sentence. The format will be the class name followed by nothing for in-person, "R" for remote, "AA" for attend anywhere, or "Hybrid:" for a mix of both. If the class is hybrid follow with a list of each activity, a dash(-) and their specific indicator. If the activity is in-person do not list it at all and if the activity is not occurring use "N" otherwise "R" and "AA" have their same meaning. These are the activities we check: Lec (Lecture), Lab, Ex (Exams), and Mat (Course Materials). Ex: CS162 Hybrid: Lab–R, Ex–R, Mat–R"
3) Ask the user if they would like to see a designator guide
    a) Prompt user
    b) "Would you like to see a designator guide and more examples?"
        i) If yes
        ii) Display instructional
        iii) "R: Remote - fully online"
        iv) "AA: Attend Anywhere - online and remote available"
        v) "Blank (do not type blank): In-Person - in-person only"
        vi) "Hybrid - A mix of in-person and/or remote activities"
        vii) "In-Person example: CS163"
        viii) "Remote example: CS163 R"
        ix) Hybrid example: CS202 Hybrid: Lec-AA, Lab-N, Ex-R, Mat-R"

4) Get the string and extract it into an array
    a) Prompt the user
        i) Display prompt
        ii) “Enter Class: “
    b) Read their string into an array
    c) Echo it back to the user
    d) Ask if this is correct
        i) If no
        ii) Restart step
5) Extract the class portion of the array
    a) Loop through the array until there is a space and grab everything before
    b) Remember where you left off at in the array
    c) Display the class name
    d) Ex: “CS162”
6) Extract the class offering type from the array
    a) Pickup from where you left off at in the last loop
    b) Loop through array until next space or end of array
    c) If the class type is R
        i) All activities are offered remotely
        ii) Output signifier for remote
        iii) “r”
    d) If the class type is AA
        i) All activities are offered remotely and in-person
        ii) Output signifier for attend anywhere
        iii) “a”
    e) If the class type is Hybrid
        i) Activities are a mix of remote, in-person, and both
        ii) Output signifier for hybrid
        iii) “h”
    f) If the class type is blank
        i) Activities are all in-person
        ii) Output signifier for in-person
        iii) “i”

7) Depending on output from step 5 determine whether we need to check for hybrid activities
    a) If the class is AA, R, or In-person we know that the output will be the same
        i) If AA (“a”)
        ii) Output “is offered as an Attend Anywhere class. Lecture, Lab, Exams, and Materials will be offered in-person and remotely.”
        iii) If R (“r”)
        iv) Output “is offered as a Remote class. Lecture, Lab, Exams, and Materials will be offered remotely.”
        v) If In-Person
        vi) Output “is offered as an In-Person class. Lecture, Lab, Exams, and Materials will be offered in-person.”
        vii) If Hybrid continue to loop through array until the end
        viii) Decipher each activity
        ix) If not present label as “in-person”
        x) If “N” label as “non-occurring”
        xi) Output “is offered as a Hybrid class” + full sentence describing each activity (ex: “Lecture will be offered remotely, ”)
8) Display the final product to the user
    a) Hybrid example: “CS162 is offered as a Hybrid class. Lecture will be offered remotely, Lab will be offered in-person, Exams will be offered remotely and in-person, and Materials will be offered in-person.”
9) Ask the user if they would like to do this again
    a) Display prompt
    b) “Would you like to do this again?”
    c) If yes
    d) Return to start
    e) If no quit the application