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CS 161 Spring 2019
Assignment 5
Design

Understanding the problem:

This assignment is giving the task to program a business calculator, that will take in several factors that would be reimbursed to the user vs their total expenses. You have to allocate meals, travel, and lodging appropriately and in the program determine what is reimbursed based on user input.

What are the user inputs:

- Departure, Arrival, and Return times
- Number of Days for trip
- If a vehicle was rented, or taxis and their associated costs
- Any registration fees
- Hotel costs for each day
- Cost of Airfare

In short these will most likely be in the form of:

- Ints
- Floats

What are the program outputs:

- The program will output prompts for user input
- Will output updated data upon receiving user input
- Lastly will inform the user of the total spent on the trip and what the total reimbursed amount is

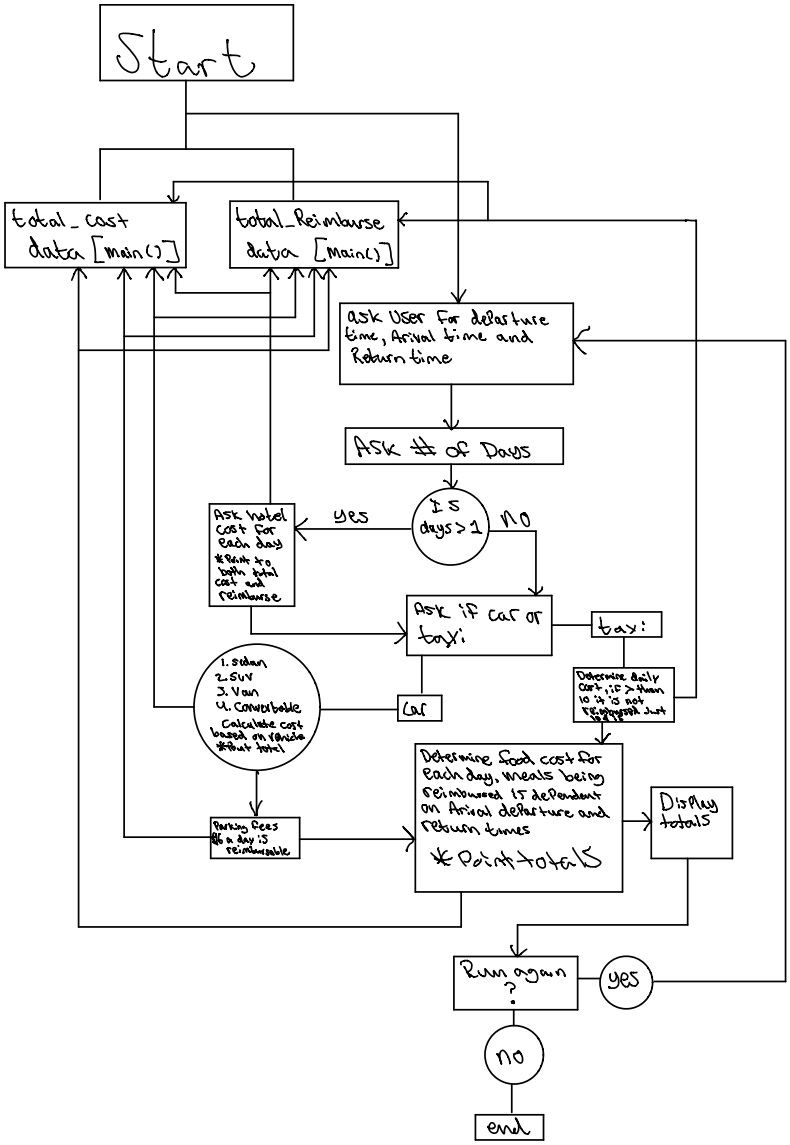
What assumptions are being made about user input:

- I am assuming that users will follow the program guidelines and only enter in either integers or float values
    - Alongside this assumption I will put in functions in place to check for errors in input and prompt re-entry
- I am also assuming that this program is being used for its designed purposes

What are all the tasks and sub tasks of this problem:

- The major task is adding up all the expenses that the user enters based on the programs prompts
- The major subtasks of the assignment are determining if something is a reimbursable fee or if it comes out of the users pocket
    - For example $90 a day is allocated for hotels, if it goes over that amount that is out of the users pocket
- Another major subtask for this program is checking user input, making sure it is either a valid int or float

The Flowchart:



Testing the Code:

This code is only accepting either floats or integers so testing this is very simple

Good input: 1, 100.54, 25, 7, 2, 3, 4

Maximum length of inputs: None (as money values can have an infinite range)

Expected output: Store the values given and continue on program.

Bad input: k, no, [[??/, ##@!

Expected output: "The input you have entered is invalid please retry your input: "