

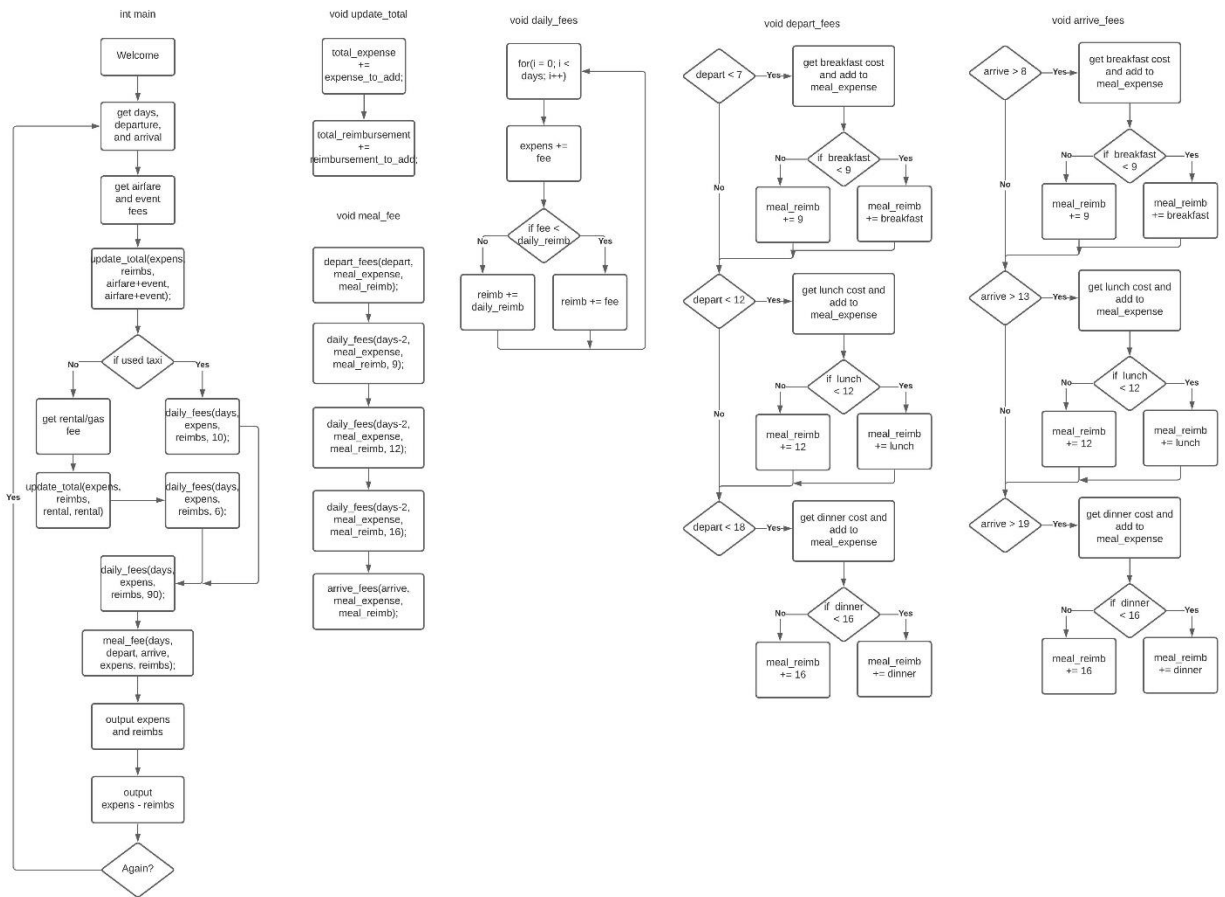
Business Expenses Design Document

Problem Statement: Write a c++ program that calculates the total expenses, reimbursements, and excesses of a business trip. The subtasks for this program include:

- Updating the expenses and reimbursements after taking in expenses from the user.
- Making sure the user enters valid inputs.
- Looping through expenses each day for parking or taxi, hotel, and meal fees.
- Adding a max reimbursement for parking or taxi, hotel, and meal expenses.
- Checking how many meals can be reimbursed for the first and last days of the trip.
- Allowing the user to calculate expenses and reimbursements for multiple trips.

Understanding the Problem: The program must get inputs for the length of the trip, departure time on the first day, arrival time on the last day, airfare, event fees, rental car and gas costs, parking cost each day, taxi cost each day, hotel cost each night, cost of each reimbursable meal, and if the user would like to enter information for another trip. The program must output clear instructions and prompts for the user and after calculations the total expenses, reimbursements, and excess costs. The program assumes that the business trip requires a plane flight although it is possible to calculate expenses if the person drives their own car by entering 0 for airfare and rental car expenses. Constraints on the program include the use of two specific function prototypes and no more than twenty lines in each function.

Devising a Plan:



Testing:

Test Value (a test value that the user could input)	Expected Output (what I expect the program to output)	Match Expected (does plan match expected output)
4rf? – in days of trip	Print invalid input and prompt the user again	
2.5 – in days of trip	Print invalid input and prompt the user again	
-3 – in days of trip	Print invalid input and prompt the user again	
5 – in days of trip	Move onto ask for arrival time	
18.5 – in arrival time	Move onto airfare	
91.50 – in hotel price	Add 91.5 to total expenses, add 90 to total reimbursement, and if another day ask for next hotel price	
50 – in hotel price	Add 50 to total expenses and total reimbursement then if another day ask for next hotel price	
0 – in again	Program ends	
Y – in again	Print invalid input and prompt the user again	