CS 150 Lab 10

Group Project

Objectives

For this lab, you are to work on a project in groups. You will designate a group leader who is in charge of dividing the work between all members of the group. The leader is in charge of ensuring that the project stays on track, and that the work is divided up equally.

You must determine all the functions that you will be using, and write out the function prototypes before you begin coding.

You must submit your project by the end of the session, regardless of whether it was completed or not. Name your project 10GroupPUNet. You must use the PU Net of the leader of the group.

You must also include a comment in the source code immediately before the include statements listing the name of the leader, the other group members, the status of the project (completed, or describe what is remaining), and a description of how the project was divided amongst the group members.

Problem statement

Write a program that calculates and describes the total travel expenses of a businessperson on a trip. The program should have functions that ask for and return the following:

1. The total number of days spent on a trip.
2. The time of departure on the first day of the trip, and the time of arrival back home on the last day of the trip.
3. The amount of any round-trip airfare.
4. Miles driven, if a private vehicle was used. Calculate the vehicle expense as $0.38 per mile.
5. Hotel expenses (The company allows up to $90 per night for lodging. Anything in excess of this amount must be paid by the employee.)

The program should perform the necessary calculations to determine the total amount spent by the business traveler in each category (mileage charges, hotel, etc.) as well as the maximum allowed in each category.

It should then create a well laid out expense report that includes the amount spent and the amount allowed in each category, as well as the total amount spent and the total amount allowed for the entire trip. The report should be written to a file called report.txt.

Input validation: Do not accept negative numbers for any dollar amount or for miles driven in a private vehicle. Do not accept numbers less than 1 for the number of days. Only accept valid times for the time of departure and the time of arrival.

Submitting your finished project

Once you have completed your lab projects, you will need to submit it for grading. You will submit your projects to the 'CS150-01 Lab' folder on Turing. You may only submit your projects once, so make sure that they are in their final form. Also, make sure that you submit the correct project. Be sure to close Visual Studio before copying and moving your folder.