CS36 C Programming Homework 2

5 points

1. You must turn in your program listing and output this project set. You must have your student name, student ID, and program set number/description. You must submit your Homework 2 with your Exam 2. Once you complete your Exam 2 and leave the classroom you will not be able to submit Homework 2. Late homework will not be accepted for whatever reasons you may have.

*********for this homework, you are also to submit to Canvas** under Homework 2 link*********

a. Name your file : lastname_firstname.c

b. You still have to submit the paper copy together with the rest of the Homework 2.

c. You have till 11:59pm on the day of Exam 2 to submit Homework 2 to Canvas. If the deadline is past your homework 2 will not be graded even if you submit the paper copy on time.

2. You must STAPLE (not stapled assignments will not be graded resulting in a zero score) your programming assignment and collate them accordingly meaning putting them in order.

3. Please format you output properly, for example all dollar amounts should be printed with 2 decimal places. Make sure that your output values are correct (check the calculations).

4. Each student is expected to do their own work. **IF IDENTICAL PROGRAMS ARE SUBMITTED, EACH IDENTICAL PROGRAM WILL RECEIVE A SCORE OF ZERO.**

Grading:

Each program set must first run correctly both syntactically, logically, and display the correct output as specified. If the program set does not run, a zero will be given. For each Program set, if the program executes properly with proper syntax, logic, and displays the correct output, then points will be deducted for not having proper:

a. Comments 1 pt
   - Your name, description at the beginning of each program set. Short description of the what each section of your codes do.

b. Consistency/Readability 1 pts
   - Spacing(separate each section of codes with a blank line
   - Indentation
   - Style (proper naming of variables no a,b,c – use descriptive and mnemonics)

c. Required elements 1 pts
   - Use tools that have been covered in class

- proper formatting for output when specified
- all monetary values must be in 2 decimal places

d. Output 2 points

- to be displayed at the end of the program listing(codes)
- must use test cases when provided

Project Trip Calculator

This project is based on the topics that you have learned up till now, which include input, output, and decision structures using if – else and switch. You are only to use the topics learned in class up till now to complete this project.

Assignment background

The goal of this project is to develop a C program to calculate the expenses of traveling from one city to another city. The final output sample looks like this:

```
**********************************************************
TOTAL EXPENSES TO TRAVEL from Baltimore is :

**********************************************************
TRANSPORTATION CHARGES = 1000
NUMBER OF DAYS OF STAY = 3
NUMBER OF MEALS IN A DAY = 4
ROOM CHARGES = 15000
FOOD CHARGES = 1800
HOTEL CHARGES = 15000

**********************************************************
TOTAL CHARGES = 17800
**********************************************************
```

The project executable file projectexpense.exe is provided on Canvas under HW2. You should first run the program and figure how it works.

The specifications are as follows:

1. There are 4 source cities:
   Baltimore

Chattanooga
Nashville
Pasadena

2. There are 4 destination cities:
   Denver
   Madison
   Clarksville
   Knoxville
3. There are 3 modes of transportation:
   Air
   Train
   Bus

4. There are 3 choice of hotels:
   Five Stars
   Three Stars
   Ordinary

5. There are three choices of meals
   Vegetarian
   Non-vegetarian
   Continental

6. The program will ask the user to input the source city, destination city, a mode of transportation, a choice of hotels, number of days of stay, choice of type of meals, number of meals desired in the hotel. The program should take into account when the user enters upper or lowercase characters for selection and accepts either case.

7. Expenses table:

Transportation Cost

	Air	Train	Bus			Air	Train	Bus
Balitmore to:					**Chattanooga to:**			
Denver	5000	2500	2000		Denver	2500	500	600
Madison	4000	2000	1000		Madison	4000	2300	1300
Knoxville	5000	2500	2000		Knoxville	4000	1600	1400
Clarkson	2500	800	1000		Clarkson	6000	2000	1700
Nashville to:					**Pasadena to:**			

Denver	5000	1500	1400		Denver	5000	2000	1400
Madison	2500	900	700		Madison	4500	1900	1300
Knoxville	4000	1500	1000		Knoxville	3000	1200	800
Clarkson	4500	1700	1300		Clarkson	4500	1700	1300

Hotel Charges/day

Five star	500
Three	300
Ordinary	100

Meal Charges/Meal

Vegetarian	15
Non-Vegetarian	30
Continental	10

Trip Calculation formulae:

Hotel_Charges = Room_Charges = (no_of_days * Room_Charges);
Food_Charges = Food_Charges * no_of_meals * no_of_days;
Total_Charges = transport_charges + Hotel_Charges + Food_Charges;

Notes:

1. To clear the screen after each prompt section use:
   #include<stdlib.h> with system("cls") – this will clear your screen.

2. To pause the welcome screen and allow user to hit the enter key to proceed to the next screen, use getchar() or getche().

3. When copying a string from one variable to another you cannot do what numbers could.

   Example - copying the value of A to B
   A =10;
   B = A;

For strings we have to do this:
A = “Good”
strcpy (B, A); //copy the value of string variable A to a string variable B