**Project 3**

**Objective:**

The purpose of this lab project is to exposes you to writing larger programs, how to use selection, and the use of functions.

**Problem Specification:**

The PCCC Palace Hotel needs a program to compute and prints a statement of charges for customers. Charges for each day are as follows:

1. Room Rates are:
   * 1. Single room-One bed $225.00
     2. Family room double bed $325.00
     3. Suite $550.00
2. Internet Access rates are (if the customer accessed the Internet)
   * 1. Wireless $9.95
     2. Wired $5.95
3. Television Rates (if the customer used the TV)
   * 1. Cable Channels $9.95
     2. Basic channels $2.95

Your input to the program consists of the customer’s name, room number, and the number of days they stayed in the hotel.

For the room, on any floor, room number ending with

0 - 9 single rooms.

10-19 Family rooms

20-29 are Suites.

Internet access and TV access options are chosen from menus to handle each of the inputs

A sample input for the program would be:

The customer name please: Eddie

Room Number: 308

Number of Days in the Hotel: 3

Internet Usage (Y/N): Y

Internet Access Usage

1 – Wi-Fi connection

2 - Cable

Enter Choice 1 or 2 : W (note that input may be 1, W, w, 2, C, or c)

TV Usage (Y/N): Y

TV Usage

1 - Cable

2 - Basic Channels

Enter Choice 1 or 2 : b (note that input may be 1, C, c, 2, B, or b)

Complete an application design and code to allow you to enter the information above, and prints a statement of the charges to be given to the customer when they checkout.

A sample output statement would be:

**PCCC Palace Hotel**

**Eddie’s Billing Statement Invoice#: 246**

**Number of days in hotel: 2 in a Single Room**

**Room Charges $675.00**

**Internet Charges (WiFi) $29.85**

**Television Charges (Basic) $8.85**

**Total Charges $703.70**

**Local Taxes $24.63**

**Total Due $728.33**

**Thank you for using PCCC Palace Hotel. Hope to see you again.**

**Requirements:**

* Include relevant information in the form of comments in your code as explained in the class.
* Follow programming standards as explained in the class( input 🡪 process 🡪 output)
* The Internet and TV may have not been used, in that case the charges would be $0.00
* All the rates are defined as constants and the defined constants are used in calculations.
* A menu displays the options to select from for each of the categories
* The local tax rate is 3.5% and is to be defined as a constant
* Use the random number generator to generate a three digit invoice number
* Use a main () function and an input statement to pause screen after execution.
* Use an if statement to convert the input for the room type to (“Single”, “Family” or “Suite”)
* Use an if statement to convert the input for the internet access to (“WiFi”, or “Cable”)
* Use an if statement to convert the input for the TV to (“Basic”, or “Cable”)
* Calculate each category and store it in its own variable.
* Use descriptive variable names (names to identify what they are storing).
* Use the format function and tabs to format and align your output.

**Grading criteria:**

|  |  |
| --- | --- |
| 5 points | Your name, Date, course #, Due Date, name of the program and explanations. |
| 5 points | All constants are defined correctly and properly. |
| 5 points | The function main is called, and screen is paused. |
| 5 points | Appropriate and descriptive identifier names are used. |
| 5 points | A prompt is used for Internet access and TV use. |
| 7 points | Room Type, Internet access Type and TV usage Type are stored in corresponding variables and are printed on the invoice. |
| 5 points | Menus are used to allow selection for each of the charge items. |
| 8 points | Programming standards (IPO) are followed. |
| 5 points | The **format function** and tabs are used to align output and print monies to 2 decimal spaces. |
| 5 points | Invoice number is generated, stored in a variable, is correct and invoice appearance is clear and looks nice. |
| 5 points | Proper headings and footings are displayed. |
| 10 points | IF statements are used properly and are clear. |
| 10 points | Flowchart in full details, is handed-in and is correct. |
| 15 points | Program is clear, runs correctly, and performs the specified task. |
| 5 points | Multiple test runs showing evidence of all requirements are submitted. |

**Submission Details:**

Submit a print-out of:

* Script (source program)
* A flowchart (Pseudo code is not acceptable)
* Test results. Supply your own test data to demonstrate all possibilities.

**\*\*\* Due Date: 04/13/2023 \*\*\***