CMPS 150
Fall 2021
Programming Assignment #6

Date Assigned: Wednesday, November 10, 2021
Due Date: 11:59 PM, Monday, November 15, 2021

Objectives:
- arithmetic expressions, decisions, loops
- programmer-defined functions, parameter passing

The coded solution to the following problem is to be done by you and only you. You may ask for help from the class teaching assistants or the instructor, but you may not ask for help from anyone else. You may use your notes, Python texts, online tutorials, etc., but the code must be your own.

1) Include the following information as comments at the beginning of your source code. Name it **`pa6.py`**
BE SURE it ***lines up*** nicely as you see it below.

```
# Author:           Type-Your-Name
# ULID:             Type-Your-ULID
# Course/Section:   CMPS 150 – Lecture Section # ___
# Assignment:       pa6
# Date Assigned:    Wednesday, November 10, 2021
# Date/Time Due:    Monday, November 15, 2021 -- 11:59 pm
#
# Description:      This program calculates a hospital bill.  It uses room type,
#                   as well as cable and hospitality room options.
#
# Certification of Authenticity:
# I certify that this assignment is entirely my own work.
```

2) Program Description

Write a program for the following problem description. A local hospital needs a program to compute and print a report for patients admitted.

Charges for each day are:
- room charges: private room ($950), semi-private room ($695)
- cable deluxe charge: $24.50
- hospitality room charge: $15.00 for semi-private (free for private rooms)

NOTE: Neither the cable charge nor the hospitality charge may exceed $300, regardless of length of stay.

Your program must read from a file of unknown length. The data in the file will contain multiple occurrences of the following data:
- the patient name
- the number of days in the hospital
- the type of room (single character, 'P' or 'S')
- whether or not cable was used (single character, 'Y' or 'N')
- whether or not the hospitality room was used (single character, 'Y' or 'N')

Each of these pieces of data will be on a line by itself. The end of the file will be indicated by a patient name of "END" (all uppercase letters). All occurrences of this data will have all five(5) pieces of data.

A sample data file is on the class Moodle site, named: "hospital.py"
As you process through the file of data, keep a sum for room cost, cable cost and hospitality cost.

3) Function Requirements

There must be a main() function and the following programmer-defined functions. These are:

- a function to print the column headings for the table; this is a void function
- a function to pretty print a line of data in the table; this is a void function; it is passed 5 parameters (all data items in the table)
- a function to compute room cost; this is a value returning function … and it returns 2 values, that is, the room cost and a string describing the type of room ("Private" or "Semi-Private"); it is passed 2 parameters (number of days and patient type)
- a function to compute cable cost; this is a value returning function … and it returns 1 value, that is, the cable cost; it is passed the number of days to be charged for cable
  NOTE: this function should only be called if the patient has a value of 'Y' for cable
- a function to compute hospitality room cost; this is a value returning function … and it returns 1 value, that is, the hospitality room cost; it is passed the number of days to be charged for the hospitality room
  NOTE: this function should only be called if the patient has a value of 'Y' for hospitality room

Remember, NO global variables allowed !!!

NOTE: Maximum values for formatted output are:
Name (20s), Cost (999999), Cable (999.99), Hospitality (999.99)

4) Sample Run

```
Name                 Room Type          Cost        Cable   Hospitality Rm
-------------------------------------------------------------------------
Mickey Mouse         Private            2850        73.50          0.00
Donald Duck          Semi-Private      69500         0.00        300.00
Pluto                Semi-Private      17375         0.00          0.00
Little Mermaid       Private            4750       122.50          0.00
Wile E. Coyote       Semi-Private       9035       300.00        195.00
-------------------------------------------------------------------------
Totals                                103510       496.00        495.00
```

5) *Upload to Moodle*

Get in a browser and login to Moodle.
Go to your Lecture section on the Moodle site.
Click on the link for submission of Programming Assignment #6.
Select to "Add a Submission" then "Upload a File"
Select to "Choose a File" and go about the process of browsing/finding "**`pa6.py`**" on the computer.
Select to "Upload this File"

When returned to the Upload screen, MAKE SURE to click on the "Save Changes" button.

You will be returned to the "Programming Assignment #6" screen.
This time you should see your source code file listed on it.

6) *Logout of Moodle*

You can turn in programs
up to 24 hours late for a maximum of 75% credit
or up to 48 hours late for a maximum of 50% credit