CMPS 150
Fall 2021
Programming Assignment #4

Date Assigned: Sunday, October 17, 2021
Due Date: 11:55 PM, Saturday, October 23, 2021

Objectives:
- using Python IDLE environment, input/processing/output method, selection structures, loop structures

1) Include the following information as comments at the beginning of your source code. Name it **`pa4.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:       pa4
# Date Assigned:    Sunday, October 17, 2021
# Date/Time Due:    Saturday, October 23, 2021 -- 11:59 pm
#
# Description:      This program calculates the number of trick-or-treaters that visit a
#                   house and the number and types of candies distributed.
#
# Certification of Authenticity:
# I certify that this assignment is entirely my own work.
```

2) *Description*

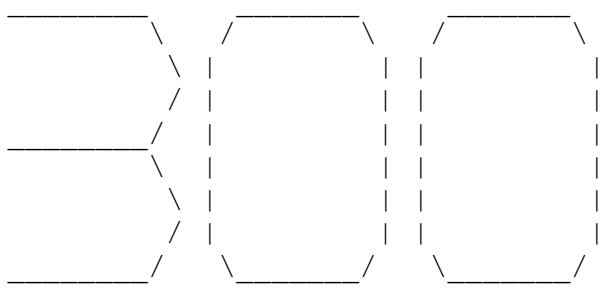
It's Halloween time! You will write a program that calculates the number of trick-or-treaters that visit a house and the number and types of candies distributed. The program will first generate a random number to represent the number of candies initially in the bowl (for simplicity, generate a value between 10 and 15). Then a trick-or-treater can ask for 1, 2, or 3 candies (also determined by the random number generator). If there is enough candy in the bowl, the trick-or-treater gets the number requested. If there isn't enough candy, the trick-or-treater gets the number of candies that remain (empties the bowl). Once you determine the number of candies the trick-or-treater gets, the program will tell you the types of candies they picked. There are three types: Snickers, Skittles, and Twizzlers. Again, use your random number generator to produce a number between 1 and 3 to represent the three candies. Trick-or-treaters continue to ask for candy until the bowl is empty. You will count the number of trick-or-treaters, and the number of Snickers, Twizzlers, and Skittles given out.

Input: There is no external input to the program. All data is generated within the code by the random number generator.

Output: For each trick-or-treater, your code must display the initial count of candies in the bowl, the number of candies requested, the number of candies given, and the types of candies given. Once the bowl is empty, display the count of the total number of trick-or-treaters and the number of Snickers, Twizzlers, and Skittles that were given out. There is no formatted output required in this assignment.

3) *Sample Runs*

Sample Run #1:

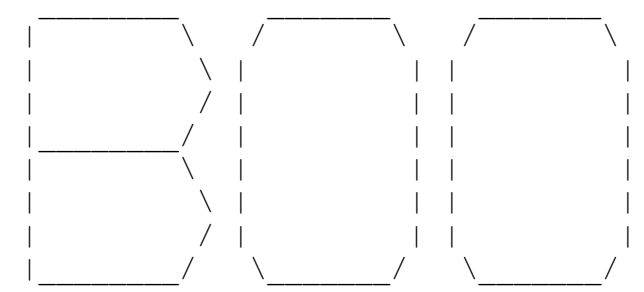


"Boo" title is optional

This example demonstrates enough candy in the bowl for all candy requests.

```
There are 12 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Skittles

There are 11 candies in the bowl.
The trick-or-treater wants 3
Yes, you get 3 treat(s)!
   Candy 1 : Twizzlers
   Candy 2 : Twizzlers
   Candy 3 : Snickers

There are 8 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Snickers

There are 7 candies in the bowl.
The trick-or-treater wants 3
Yes, you get 3 treat(s)!
   Candy 1 : Skittles
   Candy 2 : Snickers
   Candy 3 : Skittles

There are 4 candies in the bowl.
The trick-or-treater wants 3
Yes, you get 3 treat(s)!
   Candy 1 : Snickers
   Candy 2 : Twizzlers
   Candy 3 : Skittles

There are 1 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Skittles

*******************************************
Candy is all gone!
There were 6 trick-or-treaters.
You gave out:
    4 Snickers
    5 Skittles
    3 Twizzlers
```

Sample Run #2:



```
There are 13 candies in the bowl.
The trick-or-treater wants 3
Yes, you get 3 treat(s)!
   Candy 1 : Snickers
   Candy 2 : Skittles
   Candy 3 : Twizzlers

There are 10 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Skittles

There are 9 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Skittles

There are 8 candies in the bowl.
The trick-or-treater wants 3
Yes, you get 3 treat(s)!
   Candy 1 : Snickers
   Candy 2 : Snickers
   Candy 3 : Twizzlers

There are 5 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Twizzlers

There are 4 candies in the bowl.
The trick-or-treater wants 2
Yes, you get 2 treat(s)!
   Candy 1 : Twizzlers
   Candy 2 : Twizzlers

There are 2 candies in the bowl.
The trick-or-treater wants 1
Yes, you get 1 treat(s)!
   Candy 1 : Twizzlers

There are 1 candies in the bowl.
The trick-or-treater wants 3
Sorry...not enough candy for 3 treats.
You can have 1 piece(s) of candy.
   Candy 1 : Snickers
```

This example demonstrates not enough candy in the bowl for the candy request.

```
*******************************************
Candy is all gone!
There were 8 trick-or-treaters.
You gave out:
    4 Snickers
    3 Skittles
    6 Twizzlers
```

4) *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 #4.

Select to "Add a Submission" then "Upload a File"
Select to "Choose a File" and go about the process of browsing/finding "**`pa4.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 #4" screen.
This time you should see your source code file listed on it.

5) *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