PSP0101 Problem Solving and Program Design

ASSIGNMENT

Trimester 1, 2019/2020

Battle of the Sexes (B.O.T.S)

Introduction

Tony and Pepper is a married couple. Due to their heavy commitment at work, they have not been dating for quite some time. They decided to do something different for their next date. Unfortunately, they could not make up their mind. Tony was looking forward to watch Copa America's final football match with Pepper, while Pepper wanted Tony to join her for the live concert of Super Junior boy band. Both the match and live concert were held on the same day, and both Tony and Pepper did not want to forgo their preferences.

Morgan, a 5-year-old programming genius and the daughter of Tony and Pepper, loves her parents very much. She figured that the best way to resolve her parents' differences was to let them play a fair game, the winner of which gets to decide the plan for the date. Although Morgan could have used any existing board games for this purpose, she thought that it is more fun to design a new game and program it to run on a computer. She called her new game as "**Battle of the Sexes**", or B.O.T.S in short.

Mission

You are to develop the game "**Battle of the Sexes**" using Python programming language based on **Problem Description** and **Program Requirements** below.

Deadline

Submit your Deliverables to MMLS by **Monday, 30th September 2019 (on or before 11:59 pm)**.

Grouping

To be done in **a group of maximum 2 students.**

KWBAN

Starter Kit

You should find a folder named `Starter Kit` in the same folder as this document. This folder contains files that help you kick start your assignment. Here are the files in the folder:

1. `psphelper.py`

   This Python source code contains some helpful functions that you can use in your program. Check out the documentation of each function to know what they do. **You do not have to modify this file at all**.

2. `Tutorial.py`

   This Python source code demonstrates how to use the functions in `psphelper.py`. Run it to see how the functions in `psphelper.py` are used.

3. `game.exe_rename`

   This is actually an executable for the game. It is given for your reference. To run it, kindly rename it to `game.exe`, open command prompt at the executable's location, and type **game**.

Problem Description

Here are the general descriptions about the game to be developed for this assignment.

(1) Battle of the Sexes is a two-player turn-based game in which players competes for the highest score by rolling dice to make certain combinations.

(2) There are **Five (5)** dice to roll. Each die is a tetrahedron (i.e. a triangular pyramid with 4 faces) and therefore has **Four (4)** values only: **1, 2, 3** and **4**.

(3) The game begins with each player having a total score of 0.

(4) The game consists of 9 rounds. In each round, the players take turns to roll dice. **Each player can roll the dice up to three (3) times**, but they can choose to accept the dice and stop rolling before the third roll. After the first or second roll, the player can re-roll some or all dice.

(5) There are 9 scoring categories with which the dice are matched. After the third roll or after the player accepts the dice, the player has to choose which scoring category the dice is to be used. The player can only use a scoring category once.

(6) Each scoring category has its own matching condition and scoring rule. Some of the matching conditions accept any dice combination, while others are specific to certain dice combinations. Some of the scoring rules are fixed scores, while others depend on the dice's values. The table below illustrates all scoring categories in B.O.T.S.

Category	Matching Condition	Scoring Rule	Example
Ones (1S)	Any combination	Sum of dice with number 1	 Score = 3
Twos (2S)	Any combination	Sum of dice with number 2	 Score = 0
Threes (3S)	Any combination	Sum of dice with number 3	 Score = 6
Fours (4S)	Any combination	Sum of dice with number 4	 Score = 4

Trio	At least three dice the same	Sum of ALL dice	 Score = 8  Score = 0 (do not match)
Quartet	At least four dice the same	Sum of ALL dice	 Score = 0 (do not match)  Score = 14
Doremi	Four sequential dice (1-2-3-4)	20	 Score = 0 (do not match)  Score = 20
Band	Three of one number and two of the other	30	 Score = 30  Score = 0 (do not match)
Orchestra	All five dice the same	40	 Score = 40

(7) The scores obtained from the chosen scoring category will be accumulated into the player's total score.

(8) After completing all rounds, the game ends and both players' total scores are compared. The player who has the highest score wins.

Program Requirements

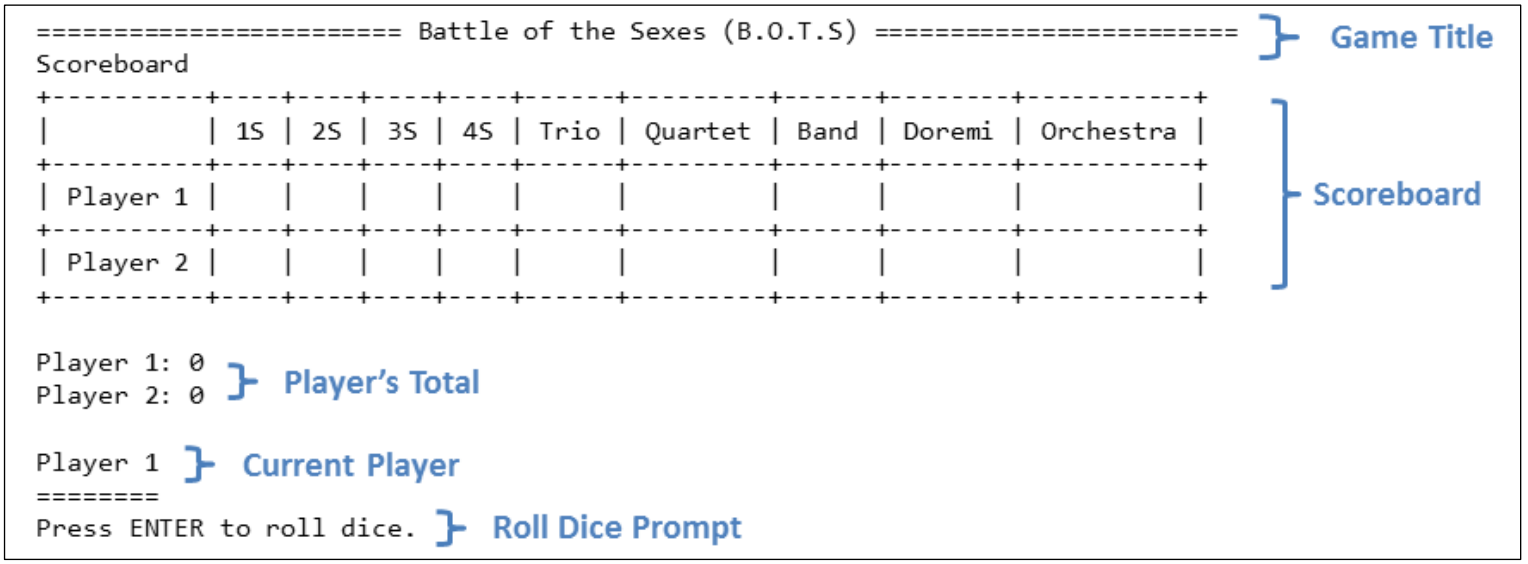
Here are the requirements that your program must satisfy to get **FULL** marks. You should read this while running `game.exe` for better understanding.

(A) Interface and Appearance

1) First Interface

The First Interface is the user interface that is always displayed first at each player's turn. It contains several parts: **Game Title, Scoreboard, Player's Total, Current Player,** and **Roll-Dice Prompt**. The example below illustrates each part clearly.

Example:



(a) **Game Title:** The game title is centre-justified on a width of 80 characters.
(b) **Scoreboard**: This part shows the players' scores for each scoring category that has been used.
(c) **Player's Total**: This part shows the total scores the player has accumulated.
(d) **Roll Dice Prompt**: This part instructs the current player to roll the dice to begin playing.

(B) Program Logic

(1) The game begins with Player 1 starts first. At the beginning of each turn, the **command prompt screen is cleared** before the **First Interface** is displayed, causing the **First Interface** to be displayed at the top of the screen.
[HINTS*: Check out `Tutorial.py` for help on how to clear screen and display the Scoreboard.*]

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 0
Player 2: 0

Player 1
========
Press ENTER to roll dice.
```

(2) The player is asked to press the Enter key for the first roll. After the Enter key is pressed, the game will show "Roll #1" to indicate that this is the first roll, and will show **a list of 5 random integers**, each indicating the value of each die. This integer list is referred to as **dice combination**. Following the dice combination is a table titled "**Category Score**s", which shows the scores the dice combination would contribute for each scoring category (refer to Problem Description for how the scores are calculated).

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 0
Player 2: 0

Player 1
========
Press ENTER to roll dice.
```

```
Roll #1 : [1, 2, 3, 1, 2]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  2 |  4 |  3 |  0 |    0 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+
```

(3) The Category Stores table is followed by **Input Options**, which shows the commands that the player can perform. The player can accept the dice combination, re-roll all 5 dice, or re-roll just the dice specified by a space-separated list of dice ordering number. An input prompt follows **Input Options**, waiting for the player to enter a command.

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 0
Player 2: 0

Player 1
========
Press ENTER to roll dice.

Roll #1 : [1, 2, 3, 1, 2]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  2 |  4 |  3 |  0 |    0 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input >
```

(4) To **accept the dice combination**, the player must type **<u>"SAVE" in any letter casing</u>** (i.e. inputs like "SAVE", "save", "sAvE" are valid, as long as the word "save" is typed). The game will proceed to the selection of scoring category for the accepted dice combination as

detailed in (8).

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 0
Player 2: 0

Player 1
========
Press ENTER to roll dice.

Roll #1 : [1, 2, 3, 1, 2]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  2 |  4 |  3 |  0 |    0 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input > sAVE
Enter your desired category:
```

(5) To **re-roll all dice**, the player must type **<u>"ROLL" in any letter casing</u>** (i.e. inputs like "ROLL", "roll", "RolL" are valid, as long as the word "roll" is typed). The game will roll the dice again, showing the dice combination and its corresponding Category Scores similar to Program Logic (2) and (3). However, this time the roll number is either 2 (the second roll), or 3 (the third roll).

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
```

```
Player 1: 0
Player 2: 0

Player 1
========
Press ENTER to roll dice.

Roll #1 : [1, 2, 3, 1, 2]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  2 |  4 |  3 |  0 |    0 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input > Roll

Roll #2 : [3, 1, 3, 1, 1]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  3 |  0 |  6 |  0 |    9 |       0 |   25 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input >
```

(6) To **re-roll some dice**, the player must type "**ROLL d_1 … d_n**", where d_1 to d_n are n space-separated list of positive integers corresponding to which die or dice to roll (e.g. "ROLL 1 3" means roll the 1st and the 3rd die). Similar to (5), the word "ROLL" is case-insensitive. However, the **order of d_1 to d_n need not be sorted** (i.e. "ROLL 1 3" should work the same as "ROLL 3 1"), and **duplicates are allowed in the integer list** (e.g. "ROLL 1 3 1 1 3" should work the same as "ROLL 1 3"). The output upon executing this command is similar to (5).

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
```

```
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 0
Player 2: 0

Player 1
========
Press ENTER to roll dice.

Roll #1 : [4, 4, 2, 4, 4]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  0 |  2 |  0 | 16 |   18 |      18 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input > roll 2 1 5 4 1

Roll #2 : [1, 2, 2, 3, 2]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  1 |  6 |  3 |  0 |   10 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input >
```

(7) Apart from the SAVE and ROLL commands, the game also secretly supports the **cheat command** to overwrite the dice to a desired combination. The cheat command syntax is "**CHEAT d_1 … d_5**". Here, d_1 to d_5 is a space-separated list of 5 positive integers that each represents the face value of a die (this is unlike the command for re-rolling some dice). The word "CHEAT" is case-insensitive, but there must be exactly 5 positive integers for the integer list. Since each die has only 4 values, the condition $1 \leq d_1, d_2, \ldots, d_5 \leq 4$ must be true.

The cheat command can only be used **once per turn**, so no other commands are allowed after executing the cheat command. Upon executing the cheat command, the game will show the Category Scores corresponding to the entered dice, and proceed to the selection of scoring category (see (8)).

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |  8 |    |    |      |         |      |        |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |     20 |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 8
Player 2: 20

Player 1
========
Press ENTER to roll dice.

Roll #1 : [1, 3, 2, 2, 2]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  1 |  6 |  3 |  0 |   10 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input > cheat 1 1 1 1 0
ERROR: Invalid input.
Input > cheat 1 1 -1 1 1
ERROR: Invalid input.
Input > cheat 1 1 1 1
ERROR: Invalid input.
Input > cheat 1 a 1 1 1
ERROR: Invalid input.
Input > cheat 1 1 1 1 1
Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  5 |  0 |  0 |  0 |    5 |       5 |    0 |      0 |        40 |
```

```
+----+----+----+----+------+---------+------+--------+-----------+

Enter your desired category:
```

(8) The player has up to three (3) rolls per turn. Once the player has finalized the dice (i.e. has accepted the dice, rolled three times, or used the cheat command), the player is asked to enter the name of his desired scoring category for his finalized dice (as seen in the **Category Scores** table). If the entered scoring category has previously used, the game will report an error and ask the player to enter again.

Once the scoring category is entered, the player's turn ends. His scoreboard will be updated with the new score obtained from the chosen scoring category, and his total score will be updated accordingly. After this, the next player's turn begins.

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |  8 |    |    |      |         |      |        |        40 |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |      |         |      |     20 |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 48
Player 2: 20

Player 2
========
Press ENTER to roll dice.

Roll #1 : [1, 4, 2, 4, 4]

Category Scores
+----+----+----+----+------+---------+------+--------+-----------+
| 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----+----+----+----+------+---------+------+--------+-----------+
|  1 |  2 |  0 | 12 |   15 |       0 |    0 |      0 |         0 |
+----+----+----+----+------+---------+------+--------+-----------+

Input Options:
  SAVE           :- Accept these dice.
  ROLL           :- Re-roll ALL dice.
  ROLL d1 ... dn :- Re-roll specified dice only.

Input > save
Enter your desired category: doremi
ERROR: Category 'doremi' has been used.
Enter your desired category: tri
ERROR: Category 'ban' does not exist.
Enter your desired category: trio
```

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |    |  8 |    |    |      |         |      |        |        40 |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |    |    |    |    |   15 |         |      |     20 |           |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 48
Player 2: 35

Player 1
========
Press ENTER to roll dice.
```

(9) The game continues to run for 9 rounds, with the **screen of the command prompt cleared** upon turn exchanges. After 9 rounds, the game ends, showing the **Game Title**, **Scoreboard**, and **Players' Total**. The winner is determined by the player with the highest total score. If both players have the same score, it is considered a tie.

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |  2 |  6 |  6 |  4 |    0 |       0 |   25 |      0 |         0 |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |  0 |  6 |  3 |  4 |   15 |       0 |    0 |      0 |         0 |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 43
Player 2: 28

Player 1 wins!
```

```
======================== Battle of the Sexes (B.O.T.S) ========================
Scoreboard
+----------+----+----+----+----+------+---------+------+--------+-----------+
|          | 1S | 2S | 3S | 4S | Trio | Quartet | Band | Doremi | Orchestra |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 1 |  0 |  6 |  3 |  4 |   15 |       0 |   25 |      0 |         0 |
+----------+----+----+----+----+------+---------+------+--------+-----------+
| Player 2 |  0 |  6 |  3 |  4 |   15 |       0 |   25 |      0 |         0 |
+----------+----+----+----+----+------+---------+------+--------+-----------+

Player 1: 28
Player 2: 28

It's a tie.
```

Source Code Requirements

Your source code must be able to be interpreted without errors with **Python 3.7 Interpreter or later** running on a **Windows machine (Windows 7 or later)**. If your source code cannot be interpreted, you get **ZERO for your whole assignment**. Once your code successfully runs, the following requirements are evaluated.

(A) Documentation and Comments

Best if your code is self-explanatory, that is, your identifiers are very well-named and your readers know their purposes without extra explanation. In situations where this is hard to achieve, you should add short comments to explain the purpose of declaring a variable or a block of code.

Deliverables

You are to submit the following for this assignment:

1. ONE (1) Python source code for the program with appropriate comments inside the code. Insert your information (file name, members' names, IDs, emails, and phone numbers) at the beginning of the file as follows:

```
#####################################################
# Program: YOUR_FILENAME.py
# Course: PSP0101 PROBLEM SOLVING AND PROGRAM DESIGN
# Class: A01
# Year: 2018/19 Trimester 3
# Names: MEMBER_NAME_1 | MEMBER_NAME_2
# IDs: MEMBER_ID_1 | MEMBER_ID_2
# Emails: MEMBER_EMAIL_1 | MEMBER_EMAIL_2
# Phones: MEMBER_PHONE_1 | MEMBER_PHONE_2
#####################################################
```

Submission Instructions

Submit the SOFTCOPY of your deliverables to MMLS. Detail instructions on how to upload your deliverable will be announced in the MMLS.

To prepare your submission, you must strictly follow the instructions below. Failure to follow any of the instructions below will result in mark deduction:

1. Name your .py file following the following format:

   `GIVENNAME1-GIVENNAME2`

   (a) `GIVENNAME#` – The given name of member # as seen in CamSys. Replace spaces with underscores (_) as NO SPACE IS ALLOWED. You may use short names if your name is too long (e.g. Mohd for Mohammad, etc.).

   Example:

   `JUSTIN_BIEBER-SELENA_GOMEZ.py`

2. Put your Deliverables in a folder, and name the folder similarly as your Python filename (without the .py extension of course).

3. Compress your folder as a ZIP archive (We recommend 7-Zip software for this task, but you can use any software that you know). At this point, your ZIP archive should contain a folder that contains your Deliverables.

4. Double check your ZIP file before submitting to ensure that you have submitted the correct code and the code can be interpreted and run on Windows machine.

Presentation

You are required to present your program after submission by demonstrating how your program works. There will be a Q & A session after your presentation.

The date of the presentation will be announced around the submission deadline.

The information about how the presentation will be conducted will be announced in MMLS around the submission date. Kindly check the MMLS announcement for the latest information.

Plagiarism

It is normal to seek help from friends or from online resources when you do the assignment, However, seeking help should not go overboard, to the point of getting (or even paying) someone to complete the assignment partly or fully for you, copying from online resources without understanding, or doing any means with the intention to cheat. For this assignment, plagiarism means the following:

(a) Turning in a work that, from the examiner's point of view, you do not sufficiently understand.
(b) Turning in someone else's work (whether partly or fully) as your own.
(c) To use another's work (whether partly or fully) without crediting the source.
(d) Any means of cheating.

Plagiarism is a serious offence.

We will give ZERO (0) marks to students who plagiarize AND to students who intentionally or unintentionally help other students to plagiarize by giving all or some of their code.

Evaluation Marksheet

Criteria / Features	Marks allocation	Marks
(A) Interface and Appearance		
First Interface [1m]	[1m] Satisfy ALL First Interface requirements. [0m] Missed any First Interface requirements.	/ 1
(B) Program Logic		
Dice [1m]	[1m] Random dice + Exactly 4 dice values + Exactly 5 dice. [0m] Any other cases.	/ 1
Category Scores Calculations [9m]	[km] Calculates k category scores correctly ($1 \leq k \leq 9$). (* -1 mark if category scores are not displayed in a table *)	/ 9
Accept Dice [1m]	[1m] Satisfy ALL Program Logic (4) requirements. [0.5m] Satisfy OVER 50% of Program Logic (4) requirements (at examiner's discretion). [0m] Any other cases.	/ 1
Roll ALL Dice [1m]	[1m] Satisfy ALL Program Logic (5) requirements. [0.5m] Satisfy OVER 50% of Program Logic (5) requirements (at examiner's discretion). [0m] Any other cases.	/ 1
Roll Specified Dice [2m]	[2m] Satisfy ALL Program Logic (6) requirements. [1m] Satisfy OVER 50% of Program Logic (6) requirements (at examiner's discretion). [0m] Any other cases.	/ 2
Cheat Command [2m]	[2m] Satisfy ALL Program Logic (7) requirements. [1m] Satisfy OVER 50% of Program Logic (7) requirements (at examiner's discretion). [0m] Any other cases.	/ 2
Category Score Selection [1m]	[1m] Satisfy ALL Program Logic (8) requirements. [0.5m] Satisfy OVER 50% of Program Logic (8) requirements (at examiner's discretion). [0m] Any other cases.	/ 1
Game Repeat and Ending [1m]	[1m] Satisfy ALL Program Logic (9) requirements. [0.5m] Satisfy OVER 50% of Program Logic (9) requirements (at examiner's discretion). [0m] Any other cases.	/ 1
(C) Error Handling		
Runtime Error [1m]	[1m] Perfect – The examiner cannot find any runtime error on all tests. [0m] Imperfect – The examiner finds at least ONE runtime error in one of the tests.	/ 1
(D) Source Code		

Documentation and comments [2m]	[2m] Comments and variable naming sufficiently makes the code easy to read. [1m] Excessive or insufficient comments. [0m] Readers find the code difficult to understand.	/ 2
(E) Presentation		
Q & A [7m]	[7m] The student answers ALL questions correctly. [4m] The student answers OVER 50% questions correctly (at examiner's discretion). [2m] The student answers OVER 30% questions correctly (at examiner's discretion). [0m] Any other cases.	/ 7
(F) Deliverables and Submissions		
Follows Instruction [1m]	[1m] Follow ALL instructions – NO instruction violated [0m] Follow PARTIAL instructions – At least ONE instruction violated	/ 1
	TOTAL:	**/ 30**
	Coursework = 30%:	**/ 30%**

END OF ASSIGNMENT