CSCI 1200 The Art of Computational Thinking
Instructor: Fleming
Lab 10
Due Sunday, December 3rd, by 11:55pm

Objectives:

- To appreciate how defining new classes can provide structure for a complex program.
- To be able to read Python class definitions.
- To be able to write programs involving the creation of new instances of objects and calling the appropriate object methods, when simple class definitions are provided.

Jeopardy Dice - revisited

For this lab project, you will need to modify a given solution in order to make use of classes for which the class definitions have been provided.

What is given?

- *dice.py* – the class definition file for an object of type *dice*. It includes a constructor method, plus one additional method for the *roll* functionality
- *player.py* – the class definition file for an object of type *player*. It includes a constructor method, four accessor methods (they return the value of an attribute) and four mutator methods (they reassign a new value for an attribute). The four attributes of the *player* object are:
  - *is_human* – a boolean value (True or False). The human player will have this attribute as True, the computer player will have this attribute as False
  - *is_next* – a boolean value (True or False). Indicates which player's turn is next. For example, the human player starts first, which means that at the beginning of the game the human player will have this attribute as True, the computer player will have this attribute as False. As the turn changes, the values will need to be reversed.
  - *total_score* – an integer representing the total number of points (after each turn). Both players start with a *total_score* with the value of 0.
  - *hold_value* – an integer representing the value the player holds at (meaning, the value at which it automatically chooses to pass rather than roll). The value for the computer player is 10. For the human player, you can consider it will only stop rolling once it reaches 100, which is the value at which the game is won (see the declaration of variable `GAME_END_POINTS = 100`)
- *jeopardy_dice_sol.py* – a solution for the Jeopardy Dice homework is provided.

What do you need to do?

Modify the file *jeopardy_dice_sol.py* to make use of the classes *dice* and *player.* Follow the instructions available in comments throughout the solution.

Style and other requirements:

Previous style requirements apply. **You must create at least one *dice* object and two player objects.** Program modularity is expected, but you are allowed to create more functions if you think they are needed, both for the main solution, and for the class definitions.

Submitting:

Zip the three .py files together and submit the resulting *.zip* file through Moodle by **Sunday, December 3rd, by 11:55pm.** You must be present in recitation to show your solution to your TA on the following dates:

- November 27th – section 100
- November 29th – section 200
- December 1st – section 300