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Write Up:

Main File : (Insert name)
For our project we decided to make a program that would faithfully run a game of Yahtzee all in Python. For this project we decided to include two classes for our code, Check and Score, as well as some solo functions like our drive_game functions and our roll functions. Its purpose is to run through the entire game of Yahtzee with player input to allow the player to play a game of solo Yahtzee. The file uses the drive function drive_game to initiate the game and allow the player to roll and choose which dice they want to reroll, if any, for that round as well as pick a scoring category they want to pick from. For example this means if they got 1,1,1,1,1,1 they should pick Yahtzee as the scoring category for that round so they get points for Yahtzee. The player then rolls again and this continues until they have exhausted all 13 scoring options, only being allowed to choose one once per game so once they used it up, like from our example Yahtzee, they cannot pick that again. We calculate the dice using our roll_dice function which creates random integers between 1-6 for each of our five dice, and then we allow for up to three rolls so we can give a player 2 rerolls in a round. We check our categories against the dice in their own functions specifically made to check our list of dice against preset requirements, for example with Yahtzee all the dice need to be the same integer. Our score class then calculates the score and bonuses by adding up what score categories were successfully met and this is returned to the player, giving them the final score in the drive_game function at the end of the game.

Test File : (Insert name) The test files purpose is to check both whether our functions can generate random integers for our dice but to also check our win conditions against the dice, for example we use a fake yahtzee to check out yahtzee check function to ensure that if a player gets a yahtzee they get counted.

How to Run the file: The player can run the file by using the command line and entering the file name preceded either by Python for Windows or Python3 if they are using a Mac.

End Results: The end result should be that a player can successfully run an entire game from start to finish of 1 player Yahtzee, and they can get a final score as a printed value at the end of the game allowing them to know how they did.

Bibliography:

Aaberge, Martin Andersson. “Interview Questions: Write Yahtzee in Python.” *Medium*, Better Programming, 9 Apr. 2020, medium.com/better-programming/interview-questions-write-yahtzee-in-python-72695550d84e.

- This resource was useful in demonstrating what a general skeleton of a yahtzee game’s code could end up looking like. From there we added and changed what functions were supposed to do, but this helped us conceptualize how we could go about making this game run smoothly. We borrowed a couple of functions from this website as well for some of the trickier checks, like 3 and 4 of a kind.

Dice Game Depot, and Jeff McArthur. “Yahtzee Rules.” *Dice Game Depot*, www.dicegamedepot.com/yahtzee-rules/.

- We utilized this source to learn how to play Yahtzee and check the rules of it for scoring and such since none of us had actually played Yahtzee before.

Nandi, Santanu. “How to Count Unique Values inside a List.” *GeeksforGeeks*, 29 Aug. 2020, www.geeksforgeeks.org/how-to-count-unique-values-inside-a-list/.

- This website was used to pull a method that helped us in completing the Full House method, which we were running into issues with for a while. We took a snippet of the methods from this and used it with the rest of our code for that method.