Project 8: Roulette

COSC 1423 | Fall 2023
Instructor: Megan Avery

Topics: return values & modules

Goal: Simulate the casino game roulette.

Turn In Instructions: See Project FAQ

Objective Definition (15 pts): See Planning Guide

Style (10 pts): See Style Guide

Specifics (55 pts):
Roulette is played by spinning a wheel with numbers on it and having a ball land on a specific spot. Some spots are red and some are black. A player wins if they guess characteristics about the spot the ball will land on correctly.

Wheels have numbers from 1 - 36 inclusive, we are ignoring the 0 spot for our game. The color of a spot is determined as follows: if the number is 1 - 10 or 19 - 28 then odds are red and evens are black. Otherwise, evens are red and odds are black.

In a module called roulette.py implement functions to help run a round of roulette. Players can bet on the color or number of the square the ball lands in. Make sure you have functions for: spinning the wheel, determining the color of a spot, determining if the color bet won, and determining if the number bet won. Think carefully about the parameters that will need to be included. When the wheel spins a **random** number on the wheel is chosen. The functions that determine if a bet won return True or False to indicate winning/ losing. Be sure to have reasonable names for your functions.

In a separate file write a main function that uses the functions from roulette.py to run the game. See sample run for example input/ output.

Advice: Focus on one piece at a time, that is one of the advantages of functions! I would start with the main code. You also might have an easier time if you make constants for some of the commonly used strings, like "color" or "black". You might put in debugging print statements if you are unsure about a section of your code.

Test Cases (10 pts): See Project FAQ

Followup Questions (10 pts):
1. How long did this project take you?
2. Did you complete the extension?
3. What was the most difficult part of the project?
4. Explain how the creation of a module affected your development process.
5. Explain your usage of AI in this project. What type of queries did you do during development?

Extension (+3):
Update your module to include a function in the module that determines if the user won a parity bet, whether the number landed on was even or odd. Update your main to incorporate this new function.

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Sample Run 1:

What type of bet (color, number): *color*

What color? (black / red): *black*

Try again later, I guess

Sample Run 2:

What type of bet (color, number): *number*

What number are you guessing? (1 - 36): *5*

Try again later, I guess

Extension Sample Run:

What type of bet (color, parity, number): *parity*

What parity? (even / odd): *even*

You win!