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IPO & Pseudocode for assignment #7

CIS 110 – Professor Rocko Graziano

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Last time you deducted points for not being indented so I did that and numbered each line as it works in the function.

Main Function:

    1. Call printIntro()

    2. Get number of games from getGames()

    3. Get stand value from getStandValue()

    4. Start the game and get total wins from startGame(numGames, standValue)

    5. Print results using printResults(totalWins, numGames,standValue)

printIntro Function:

    1. Ask player if they're ready to play

    2. If yes or y, print start message

    3. If no, print goodbye message and sys.exit

getGames Function:

    1. Ask player for the number of games they want to play

    2. Return the number of games

getStandValue Function:

    1. Ask player for the stand value they want

    2. Return stand value

startGame Function:

    1. Initialize wins to 0

    2. Loop numGames times:

      a. Call playGame(standValue)

      b. If playGame(standValue) returns 1, increment wins

3. Return wins

playGame Function;

    1. Deal initial hands for the player and dealer

    2. Call playerTurn() for player's actions

    3. If player busts, return 0

    4. Call dealerTurn() for dealer's actions

5. Determine winner using determineWinner() and return result

dealFirstHand Function:

    1. Return a list with two dealt cards

dealCard Function:

    1. Return a random card from the deck

calculateScore Function:

    1. Calculate the score of hands played

    2. Adjust the score for aces

    3. Return the score

playerTurn Function:

    1. Loop until player stays or busts:

        a. Calculate score

        b. If score > 21, return score and hand

        c. If score < targetScore, deal a card and update hand

        d. If score >= targetScore, break loop

    2. Return final score and hand

dealerTurn Function:

    1. Loop until dealer's score >= 17:

        a. Dealer hits and deals a card

        b. If dealer busts, return score and hand

    2. Return final score and hand

determineWinner Function:

    1. Compare player and dealer scores

2. Return winner (1 for player, 0 for dealer or tie)

printResults Function:

1. Print total games played, total wins, win rate, and stand value

IPO Statement

Input:

User's agree to play blackjack (yes/no)

No exits the game(sys.exit)

Number of games to play

Player's action during the game (hit/stay)

Process:

Initialize game and get user inputs

Deal cards and calculate score

Execute player and dealer turns

Determine the winner

Calculate total wins and win rate

Output:

Starting message or goodbye message

Player and dealer score

Game data (win/loss/tie)

Total games played, total wins, and win rate