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clc
clear

% Ask user if they have played before
playedBefore = input('\n\nDo you know how to play over/under seven? (0 for
no, 1 for yes): ');
%Create a loop so a valid input is entered
while(playedBefore ~= 0 && playedBefore ~= 1)
    fprintf('Invalid input, you must enter 0 or 1!\n');
    playedBefore = input('Do you know how to play over/under seven? (0 for
no, 1 for yes): ');
end
% Display a message explaining the rules for users that do not know how to
play
if(playedBefore == 0)
    fprintf('\nOver/Under seven is a game where two dice are rolled and the
sum of these rolls is added up. The player (you) chooses an amount to bet on
whether the sum is lower than seven, equal to seven, or more than seven. You
will then earn or lose money depending on whether or not you get your bet
correct. For purposes of this game, you will start with a capped cash amount,
so pay attention to how much money you have left after each bet!\n');
end
%Display cash amount
totalCash = 100;

isZero = false;
isZeroTwo = false;

fprintf('\nYou currently have %i dollars to bet\n', totalCash);
%Create a loop to ensure a valid input is entered if they want to play
again = input('Do you want to play? (1 for yes and 0 for no): ');
while(again ~= 1 && again ~= 0)
        fprintf('Invalid input, you must enter a 1 or 0!\n');
        again = input('Do you want to play? (1 for yes and 0 for no): ');
end
%if the user does not want to play again, end the game
if(again == 0)
    isZero = true;
    isZeroTwo = true;
end

%Create a loop if the user wants to play
while(totalCash > 0 && isZero == false)
%Take the sum of two randomly rolled die
sum = randi(6) + randi(6);
%Ask user to input a bet
amountBet = input('Enter an amount to bet: ');
%Create a loop to ensure a valid bet amount is placed
while (amountBet < 0 || amountBet > totalCash)
    fprintf('Your bet must be between 0 and %i dollars\n', totalCash);
    fprintf('You currently have %i dollars to bet\n', totalCash);
    amountBet = input('Enter an amount to bet: ');
end
%Ask user what they would like to place their bet on
betType = input('High, low, or sevens? (H, L, or S): ', 's');
%Create a while loop to ensure the user places their bet on a correct input
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while (betType ~= 'H' && betType ~= 'L' && betType ~= 'S')
    fprintf('Invalid bet type! You must enter only "H", "L", or "S"\n');
    betType = input('High, low, or sevens? (H, L, or S): ', 's');
end
%Use a conditional statement to see if they won betting on high or low
if (betType == 'H' && sum > 7)||(betType == 'L' && sum < 7)
    fprintf('The sum of the two die is %i\n', sum);
    fprintf('You won %i dollars\n', amountBet)
    totalCash = totalCash + amountBet;
%If the user won betting sevens, their earnings are multiplied by 4
elseif (betType == 'S' && sum == 7)
    fprintf('The sum of the two die is %i\n', sum);
    fprintf('You won %i dollars\n', 4*amountBet)
    totalCash = totalCash + (4*amountBet);
%Catch all statement if the user did not win on their bet
else
    fprintf('The sum of the two die is %i\n', sum);
    fprintf('You lost %i dollars\n', amountBet)
    totalCash = totalCash - amountBet;
end
%Use a loop to ask user if they want to continue playing
    again = input('Do you want to play again? (1 for yes and 0 for no): ');
    while(again ~= 1 && again ~= 0)
        fprintf('Invalid input, you must enter a 1 or 0!\n');
        again = input('Do you want to play again? (1 for yes and 0 for no):
');
    end

    if(again == 0)
        isZero = true;
    else
        fprintf('\nYou currently have %i dollars to bet\n', totalCash);
    end

end
%Outcome if the player runs out of money
if(totalCash == 0)
    fprintf('\nYou ran out of money! Better luck next time!');
%Outcomes if the user decides to stop playing
elseif(isZeroTwo == true)
    fprintf('\nMaybe next time. Goodbye!\n\n');
else
fprintf('\nThank you for playing. Goodbye!\n\n');
end
```