Lucky Sevens Algorithm

Summary: Play “Lucky Sevens” (bet $1; roll two dice; win $4 if you roll a seven) until player loses all money in the pot. Then give user a mathematical report detailing the futility in playing a game of chance such as Lucky Sevens.

Algorithm:

1. Import random module – we will need this to simulate the dice rolls
2. Ask user for input to assign amount of money in the pot. If not a positive integer, return error. Assign integer to a variable representing the pot.
3. Ask user if they want a detailed report. Assign Boolean value to variable.
4. Initialize two variables to represent two dice
5. Initialize a round count variable as 0.
6. Initialize a variable representing the highest pot value, equal to the current pot value.
7. Begin the game simulation
   1. Use while statement: while the value of the pot > $0
      1. Use random module to assign random whole number from 1 to 6 to each dice
      2. If the value of the two dice added together equals 7, add $4 to pot. Else, subtract $1.
      3. Check the Boolean variable to see if the detailed report request was yes. If so, print each die’s value, the total roll, the payoff (-1 or +4), and the amount remaining in the pot.
      4. Add one to the round count variable to count number of games played.
      5. If highest pot variable < current pot value, assign current pot value to the highest pot variable.
   2. When value of the pot = $0, run else statement, listing round count variable and highest pot variable to show how many rounds it took to lose all the money, and what the maximum amount held was.
8. Ask user if they want to play another round. If so, continue from step 2.