Course: CS 101

Assignment: Program 2 algorithm

Name: Alexeo Smith

Email: asd5b@mail.umkc.edu

Problem:

In the casino game of Lucky Sevens, the player rolls a pair of dice. If the dice add up to 7, the player wins $4; otherwise the player loses $1. Suppose a casino tries to entice the gullible by pointing out in its ads that there are several ways to win: (1, 6), (2, 5), etc. A little mathematical analysis makes it clear that there aren't enough ways to win to make it worthwhile; over the long run, the player is doomed.

But most people's eyes glaze over at the first mention of mathematics, let alone probabilities. So your task is to write a program demonstrating the futility of playing this game. Your program should take as input the total amount the player wants to put into the pot (which should be a whole number > 0). It will then play the game until the pot is empty, at which point it will print how many rounds it took to bankrupt the player, and the highest amount the pot ever reached.

Algorithm:

1. Import random so random numbers can be generated. Create two variables to store the random numbers for the dice

2) Prompt the user for the starting pot amount and store the value

3) Ask the user if the want a detailed report and store the value

4) Create a function to see if the user entered an integer value greater than

zero. If the user entered an invalid value, warn the user again to enter

an integer value greater than zero. A function is best here because this code will

be needed again

5) Create a function to play the game as long as the pot value is greater than zero.

Execute the logic in the given assignment above and use a while loop and

multiple list variables to store the results. A function is best here because this

code will be needed again

6) When the pot reaches zero, either print a detailed report and a summary or just

a summary. The verdict will be base on the value stored in number 3 above.

Use a For loop to iterate through the lists and print the

values for the detailed report

7) Ask the user if they want to play again and call the appropriate functions (i.e.

number 4 and 5 above to play the game again if necessary.   
 Else exit the program