

CMPT120 - Program 4 (**Prog4YourLastName.py**)

Due: Tuesday, Oct. 1<sup>st</sup>, before 1:30 pm. (Submitted via iLearn and printed)  
On my desk (in the classroom) beginning of class

The main purpose of this program is to refine our knowledge about the proper use of loops and control structures. You are to write the following gambling program.

In the game of Lucky Seven Eleven, a player rolls a pair of dice. If the dots add up to 7, the player wins \$3 (YAY!); if they add up to 11, she wins \$2 (YAY!); otherwise, the player loses \$1 (Booooo!). Sounds simple enough, right?

As you might guess, these odds are definitely not on the player's side! Let's write a simulation to demonstrate that gambling on this game is not a good idea. For each roll, we'll use Python's random number generator to get a value for each die.

Your program should take as input the amount of money the player wants to put into the pot (as an integer whose value is between 1 and 100, inclusive, so be sure to validate it), then play the game until the pot is empty, printing for each roll the play number, the value on each individual die, and the amount of money in the pot after that roll (one line of output per roll, clearly labeled, of course). When the pot is empty, the program should print the number of rolls it took to break the player, as well as the maximum amount of money that was ever in the pot.

Challenge: At the end of the game, can you also give the play number that corresponds to when the pot was at its maximum value?

You will need to develop your own spec sheet and then develop your own algorithm. The major steps of your algorithm should become your inline documentation within your program.

Call the program **Prog4YourLastName.py**

In addition, you should try to come up with test data to fully test your program.

**Sample program run** (yours will be different since we're using random numbers!):

Welcome, player, to the Lucky Seven Eleven game!  
Bet a buck - if you roll a 7, you win \$3!  
If you roll an 11, you win \$2!

How many dollars are you willing to bet (1-100)? -10  
Invalid amount. Please enter a number between 1 and 100: 10  
Here we go!

Play 1	die1 = 3	die2 = 3	Pot = \$ 9
Play 2	die1 = 1	die2 = 5	Pot = \$ 8
Play 3	die1 = 6	die2 = 2	Pot = \$ 7
Play 4	die1 = 1	die2 = 3	Pot = \$ 6
Play 5	die1 = 1	die2 = 4	Pot = \$ 5
Play 6	die1 = 2	die2 = 1	Pot = \$ 4
Play 7	die1 = 6	die2 = 1	Pot = \$ 7
Play 8	die1 = 1	die2 = 6	Pot = \$ 10
Play 9	die1 = 3	die2 = 3	Pot = \$ 9
Play 10	die1 = 6	die2 = 6	Pot = \$ 8
Play 11	die1 = 5	die2 = 1	Pot = \$ 7
Play 12	die1 = 4	die2 = 3	Pot = \$ 10
Play 13	die1 = 3	die2 = 1	Pot = \$ 9
Play 14	die1 = 4	die2 = 3	Pot = \$ 12
Play 15	die1 = 3	die2 = 1	Pot = \$ 11
Play 16	die1 = 6	die2 = 4	Pot = \$ 10
Play 17	die1 = 3	die2 = 2	Pot = \$ 9
Play 18	die1 = 6	die2 = 2	Pot = \$ 8
Play 19	die1 = 3	die2 = 2	Pot = \$ 7
Play 20	die1 = 5	die2 = 1	Pot = \$ 6
Play 21	die1 = 2	die2 = 5	Pot = \$ 9
Play 22	die1 = 3	die2 = 6	Pot = \$ 8
Play 23	die1 = 6	die2 = 2	Pot = \$ 7
Play 24	die1 = 3	die2 = 6	Pot = \$ 6
Play 25	die1 = 1	die2 = 3	Pot = \$ 5
Play 26	die1 = 2	die2 = 3	Pot = \$ 4
Play 27	die1 = 1	die2 = 4	Pot = \$ 3
Play 28	die1 = 2	die2 = 4	Pot = \$ 2
Play 29	die1 = 2	die2 = 1	Pot = \$ 1
Play 30	die1 = 5	die2 = 6	Pot = \$ 3
Play 31	die1 = 2	die2 = 4	Pot = \$ 2
Play 32	die1 = 3	die2 = 2	Pot = \$ 1
Play 33	die1 = 5	die2 = 2	Pot = \$ 4
Play 34	die1 = 2	die2 = 4	Pot = \$ 3
Play 35	die1 = 4	die2 = 1	Pot = \$ 2
Play 36	die1 = 4	die2 = 1	Pot = \$ 1
Play 37	die1 = 5	die2 = 4	Pot = \$ 0

You are broke after 37 rolls.

You should have quit after 14 rolls when you had \$12.

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