03.4 - Organisms

Write a program that predicts the approximate size of a population of organisms. The application should allow the user to enter the starting number of organisms, the average daily population increase (as a percentage), and the number of days the organisms will be left to multiply. Mathematically, the population for any day $n > 0$ can be expressed as

$$\text{Pop}_n = \text{Pop}_{n-1}\left(1 + \frac{\text{percent increase}}{100}\right)$$

Test your program with the data in Table 1. Finally, format your program to match the sample terminal. Your output should exactly match the sample output, character for character, including all white space and punctuation. User input in the sample has been highlighted in Pappy's Purple to distinguish it from the program's output, but your user input does not need to be colored. Save your program as `organisms_login.py`, where `login` is your Purdue login. Then submit it along with a screenshot showing a run of the test case.

Input			Output	
Start	Rate	Days	Day	Pop.
2.5	98	15	0	2.500
			1	4.950
			2	9.801
			3	19.406
			4	38.424
			5	76.079
			6	150.637
			7	298.261
			8	590.557
			9	1,169.302
			10	2,315.218
			11	4,584.132
			12	9,076.581
			13	17,971.631
			14	35,583.828
			15	70,455.980

Table 1: Population test data.

Terminal

```
$ python organisms_login.py
Starting population, in thousands: 2.5
Average daily increase, in percent: 98
Number of days to multiply: 15
Day   Approx. Pop
  0         2.500
  1         4.950
  2         9.801
  3        19.406
  4        38.424
  5        76.079
  6       150.637
  7       298.261
  8       590.557
  9     1,169.302
 10     2,315.218
 11     4,584.132
 12     9,076.581
 13    17,971.631
 14    35,583.828
 15    70,455.980
```