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.

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 | | | | |
|--|------------|--|--|--|
| <pre>\$ 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</pre> | | | | |
| 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 | | | |
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| 13 | 17,971.631 | | | |
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| 15 | 70,455.980 | | | |

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