MATH 210 Lab 1

Functions

INSTRUCTIONS

- Create a new Python 3 Jupyter notebook
- Answer each question in the Jupyter notebook and clearly label the solutions with headings
- All functions should include documentation strings and comments
- You are encouraged to work with others on this lab
- You are encouraged to search online (Python Documentation, Stack Exchange, Google) for help as needed.
- Do **not** import any Python packages such as `math` or `numpy` to complete this assignment. These questions require only the standard Python library. Solutions will be given 0 if any Python package/module is used.

QUESTIONS

1. Dr. Walls wants to buy a house which costs $\$1,400,000$. However, he currently only has $\$100,000$. One of the ways he can increase his money is to put it into a bank account and wait. For example, if CIBC is offering him 8% interest each year:

Year	Money
0	10000.00
1	108000.00
2	116640.00
3	125971.20
4	136048.90
5	146932.81
6	158687.43
...	...
31	1086766.90
32	1173708.25
33	1267604.91
34	1369013.30
35	1478534.36

Thus, we see Dr. Walls can buy his house in 35 years.

In this lab, you need to help Dr. Walls calculate how many years it will take him to wait depending on a starting amount s, required sum R, and a bank's interest rate p. At the end of each year, the account is **rounded down** to the nearest whole cent (as in the example above).

Write a function named TimeForHouse that accepts parameters s, R and p and returns the number of years he has to wait.

Note: There exists a formula for calculating compound interest (covered in MATH 104/184) and one can compute directly the number of years it will take for a starting amount s to increase to a certain amount R. You may find this formula and use it to check your answer, but a correct solution will **only use** logic and loops.