1. **Writing a Python 3 Program to Calculate Effective Interest Rate**

The effective interest rate is a rate that is equivalent to a simple interest rate that would produce the same amount of interest for one year as if the monetary amount were compounded for one year. The following formula converts an annual nominal interest rate to the effective yield:

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where = interest rate in decimal form and = number of compounding periods per year.

Write a small, but complete Python3 program called **Lab3A.py** that calculates the effective interest rate, also known as the effective yield, using user input of the interest rate and the number of compounding periods per year.

* 1. Prompt for and read in the interest rate as a floating-point number percent. For example, an 18.9% interest rate should be read in as 18.9.
  2. Convert the interest rate to its decimal equivalent by dividing the interest rate by 100 using the shorthand compound operator (e.g., /=).
  3. Prompt for and read in the number of compounding periods per year as an integer. For example, if the rate is compounded monthly, then the number of compounding periods per year would be 12.
  4. Calculate the *Effective Yield* using the formula given above with the built-in pow() function where the is the base argument and is the exponent argument.
  5. Convert the *Effective Yield* result back to a percent by multiplying by 100 using the shorthand compound operator (e.g., \*=).
  6. Print the effective interest rate to the terminal, formatting the original and effective interest rates to three decimal places and the % sign as shown in the example. Since we divided the interest rate input by the user, you will need to multiply the original interest rate by 100 to print out correctly as shown, but do so in the print() statement itself.

For example, the output might look like this (input shown in **bold**):

$ **python3 Lab3A.py**

Enter interest rate as a percent: **18.9**

Enter number of compounding periods per year: **12**

18.900% interest with 12 compounding periods has an Effective Yield of 20.626%

Before writing the code, you may want to compute a hand example to verify that your program solution is correct and matches your example