Designing and Coding/Programming a Simple Calculator in Python

Step 1: Problem Analysis.

a. I need to be able to make a program that will take two numbers inputted by the user and the operation they ask to use to compute their two stated numbers.
b. I would be expected to know how to use if statements and else statements with Python. I would also by expected to know how to take a user's input of two numbers and selected operation and have Python calculate those two numbers, and then have it print the answer to user. Also I would have to know how to write an indefinite loop for this program.

Step 2: Program Design.

1. Create a vim file named assign3.py. starting in insert mode to start write the program.
2. Set a Boolean flag terminate that is set to False.
3. Write the statement "while not terminate:"
4. Write the variable operation which is set to an input stating "Enter a number operation (+, -, /, *, **, %): ".
5. Write the variable num1 which is set to the integer of an input stating "Enter your 1st number: ".
6. Write the variable num2 which is set to the integer of an input stating "Enter your 2nd number: ".
7. Write a variable of game_over set to False.
8. Write the statement "while not game_over:"
9. Write an if statement for operation is equal to + have the program print num1+num2.
10. Write an elif statement for operation is equal to - have the program print num1-num2.
11. Write an elif statement for operation is equal to / have the program print num1/num2.
12. Write an elif statement for operation is equal to * have the program print num1*num2.
13. Write an elif statement for operation is equal to ** have the program print num1**num2.
14. Write an elif statement for operation is equal to % have the program print num1%num2.
15. Write the variable game_over and have it set to True.
16. Write an if statement for game_over having the variable entry that is set to an input of asking the user if they would like to play again, giving the options or 0 - no and 1 - yes.
17. Write another if statement if the variable entry is equal to 0, have the Boolean flag terminate set to True.
18. Have the program print "Thanks you for using this calculator." at the end of the written program.

Step 4: Program Testing.

Average Case:

When the two numbers are only integers and the user only selects only one operation, the program will do what it is supposed to do just fine.

Extreme Case:

If a number or both numbers are not integers and/or the user inputs more than one operation, the program will recognize the difference as an error, and will not work.