Part 2

August 2017

1. Do question 2 from part 1, but this time allow the user to input the values of m and v, then print the result. Hint: user input should be converted to a float; consider the float() method.
2. Write a program that takes a person's name as input and then prints the following given the name John Smith:

   `Your name is John Smith, Congratulations!!!`
3. Use python to find the value of pi to the tenth power and print the result.
4. The growth of a bacterial colony can be modeled by the formula $a = a_0 * \exp(t)$ where a is the population at time t, a_0 is the initial bacterial population, t is time in days. Write a program that will introduce the variable a_0 with value 100 representing the initial population and prints the bacterial population every day for 5 days. Hint: `exp()` is a function accessible through the `numpy` module.
5. Use python to find the value of e to the tenth power and print the result.
6. Write a program that prompts the user to input a number. Assume the input will be positive. Print the natural logarithm of this number.
7. Write a program that prompts the user to input the lengths of two sides of a triangle and the angle between them (in degrees). Print out the area of this triangle (recall $A = ab\sin\theta$).
8. Write a function `add()` that takes two numbers as parameters and returns their sum.
9. Write a function `tenth_power()` that takes one number as a parameter and returns the value of the number to the tenth power.