Python Exercise

1. Create a program to compare three numbers and find the bigger numbers. [topics covered: identified, variable, types, operator, if statement]
2. Write the above solution in a function which takes take numbers and return the bigger number [topic covered: function]
3. Create a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 100 years old.
4. Take two lists, say for example these two:

   a = [1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89]

   b = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13]

   and write a program that returns a list that contains only the elements that are common between the lists (without duplicates). Make sure your program works on two lists of different sizes.

5. Let's say I give you a list saved in a variable: a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100]. Write one line of Python that takes this list a and makes a new list that has only the even elements of this list in it.
6. Make a two-player Rock-Paper-Scissors game. (Hint: Ask for player plays (using input), compare them, print out a message of congratulations to the winner, and ask if the players want to start a new game)

   Remember the rules:

   - Rock beats scissors
   - Scissors beats paper
   - Paper beats rock

7. Write a program (function!) that takes a list and returns a new list that contains all the elements of the first list minus all the duplicates.

   For this exercise, we will keep track of when our friend's birthdays are, and be able to find that information based on their name. Create a dictionary (in your file) of names and birthdays. When you run your program it should ask the user to enter a name, and return the birthday of that person back to them. The interaction should look something like this:

   >>> Welcome to the birthday dictionary. We know the birthdays of:

   Albert Einstein

   Benjamin Franklin

   Ada Lovelace

   >>> Who's birthday do you want to look up?

   Benjamin Franklin

   >>> Benjamin Franklin's birthday is 01/17/1706