Python Assignments

1. Create a variable, paragraph, that has the following content: "Python is a great language!", said Fred. "I don't ever remember having this much fun before."
2. Write an if statement to determine whether a variable holding a year is a leap year.
3. Write code that will print out the anagrams (words that use the same letters) from a paragraph of text.
4. Create a list. Append the names of your colleagues and friends to it. Has the id of the list changed? Sort the list. What is the first item on the list? What is the second item on the list?
5. Create a tuple with your first name, last name, and age. Create a list, people, and append your tuple to it. Make more tuples with the corresponding information from your friends and append them to the list. Sort the list. When you learn about the sort method, you can use the key parameter to sort by any field in the tuple, first name, last name, or age.
6. Create a list with names of friends and colleagues. Search for the name 'John' using a loop. Print ;not found; if you didn't find it.
7. Create a list of tuples of first name, last name, and age for your friends and colleagues. If you don't know the age, put in None. Calculate the average age, skipping over any None values. Print out each name, followed by old or young if they are above or below the average age.
8. Write a function, is_prime, that takes an integer and returns True if the number is prime and False if the number is not prime.
9. Write a binary search function. It should take a sorted sequence and the item it is looking for. It should return the index of the item if found. It should return -1 if the item is not found.
10. Write a function that takes camel-cased strings (i.e. thisIsCamelCased), and converts them to snake case (i.e. this_is_camel_cased). Modify the function by adding an argument separator, so it will also convert to the kebab case (i.e.this-is-camel-case) as well.
11. Write a function to remove duplicate items from the list.

12. Write a function that takes a list of numbers and returns their sum.
13. Write a function that takes a list of numbers and returns their products.
14. Write a function that returns the largest number from the list.
15. Write a function that returns the smallest number from the list.
16. Write a function that takes two lists as input and replaces the last item of the first list with the second list.
17. Write a function to check if a key exists in a dictionary.
18. Write a function to iterate over a dictionary and print the key and value of that item.
19. Write a function to generate a dictionary of numbers(1 to n) and their squares.
20. Write a function to add an item into a tuple.