Homework 3

1. Help your future career! You know bubble sort already. Find information on Inserion Sort, Merge Sort and Quicksort. Wikipedia has a pseudocode example for each of them as well as visualisation. Try to implement them in Python. Once you have understood them try to make a simple document so you have an explanation in your own words for reference.

2. Write a Python program to read a random line from a file.

3. Write a Python program which creates a random date. HINT: use the datetime and random modules

4. Write a Python program which concatenates two text files . In the resulting file separate each in input file's content by a destinctive separator line (e.g. "---------------------------------").

5. Use the requests library to send a get request to some website of your choice. Save the response content(text) to a text file.

6. Write a Python function to multiply all the numbers in a list.
        Sample: [3,6,2]
          36

7. Write a Python program to find the single element which appears once in a list where every element appers two times except for one/
        Sample: [2,2,3,4,3]
          4

8. Write a Python program which prints the next 5 days starting from today.

9. Write a Python program which keeps a list of people and their corresponding age. (e.g. Mike Johnson: 3, Jacob Maloney: 56……). Choose the proper data structure. When you run your program it should ask the user to enter a name, and return the age of that person if he is in the list. If he is not there, the output should be "I don't know that person yet".

10. Write a recursive Python function to calculate the value of 'a' to the power 'b'. Do not use the math module.
        Sample: power(2,3)
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