Problem Set: (All solutions musk use the quick sort algorithm)

1. Code the methods for a quicksort element that sorts an array of integers in descending order and test it in the main method

Input: {-3, 2, 5, 11, 7, 0}

Output: {11, 7, 5, 2, 0, -3}

Solution: https://pastebin.com/pVLzyKtW

2. You will be given first names of students and their marks, sort the names of the students in alphabetical order and print their names with the corresponding mark. Make the tiebreaker be which one has the higher mark if the two students have the same name; if both the students have the same marks and names, then it does not matter.

Example: if the list contains {{Ali, 90}, {Ali, 95}}, Ali with a mark of 95 is printed first.

Solution: https://pastebin.com/8mSAiQEm

3. Create a program that displays how quicksort sorts elements in an array. Output the array in the console after each partition. Include the current pivot of each partition after the array.

Format the output as follows:

3, 5, 6, 2, 6, 7, 10, 9, 11, 12 Pivot: 7

Example output:

3 5 7 23 56 Pivot: 23
3 5 7 23 56 Pivot: 7
3 5 7 23 56 Pivot: 5

4. Create a program that reads a list of names from a file, and sort them with quick sort. Then, print the sorted list.

5. Create a program that sorts an array of strings in descending order