1. **Array List Sorting and Merging**

 Write a code to read two int array lists of size 5 each as input and to merge the two arrayLists, sort the merged arraylist in ascending order and fetch the elements at 2nd, 6th and 8th index into a new arrayList and return the final ArrayList.

Include a class **UserMainCode** with a static method **sortMergedArrayList** which accepts 2 ArrayLists.

The return type is an ArrayList with elements from 2,6 and 8th index position .Array index starts from position 0.

Create a **Main** class which gets two array list of size 5 as input and call the static method**sortMergedArrayList** present in the **UserMainCode.**

**Input and Output Format:**

Input consists of two array lists of size 5.

Output is an array list .

Note - The first element is at index 0.

Refer sample output for formatting specifications.

**Sample Input 1:**

**3**

**1**

**17**

**11**

**19**

**5**

**2**

**7**

**6**

**20**

**Sample Output 1:**

**3**

**11**

**19**

**Sample Input 2:**

**1**

**2**

**3**

**4**

**5**

**6**

**7**

**8**

**9**

**10**

**Sample Output 2:**

**3**

**7**

**9**

1. **Vowels, Arrays & ArrayLists**

Write a program to read an array of strings and return an arraylist which consists of words whose both first and last characters are vowels. Assume all inputs are in lowecase.

Include a class UserMainCode with a static method **matchCharacter** which accepts a string array. The return type shoud be an arraylist which should contain elements as mentioned above.

Create a Class Main which would be used to accept Input array and call the static method present in UserMainCode.

**Input and Output Format:**

Input consists of n+1 integers. The first integer corresponds to n, the number of elements in the array. The next 'n' string correspond to the elements in the array.

Output consists of strings which are elements of arraylist

Refer sample output for formatting specifications.

**Sample Input 1:**

4

abcde

pqrs

abci

orto

**Sample Output 1:**

abcde

abci

orto

1. **Remove 3 Multiples**

Write a program that accepts an ArrayList of integers as input and removes every 3rd element and prints the final ArrayList.

Suppose the given arrayList contains 10 elements remove the 3rd, 6th and 9th elements.

Include a class **UserMainCode** with a static method “**removeMultiplesOfThree**” that accepts an ArrayList<Integer> as arguement and returns an ArrayList<Integer>.

Create a class **Main** which would get the required input and call the static method **removeMultiplesOfThree** present in the UserMainCode.

**Input and Output Format:**

The first line of the input consists of an integer n, that corresponds to the number of elements to be added in the ArrayList.

The next n lines consist of integers that correspond to the elements in the ArrayList.

Output consists of an ArrayList of integers.

**Sample Input:**

6

3

1

11

19

17

19

**Sample Output**

3

1

19

17

1. **ArrayList to String Array**

Write a program that performs the following actions:  
    Read n strings as input.  
    Create an arraylist to store the above n strings in this arraylist.  
    Write a function convertToStringArray which accepts the arraylist as input.  
    The function should sort the elements (strings) present in the arraylist and convert them into a string array.  
    Return the array.  
Include a class UserMainCode with the static method **convertToStringArray** which accepts an arraylist and returns an array.  
  
Create a Class Main which would be used to read n strings and call the static method present in UserMainCode.  
  
**Input and Output Format:**  
  
Input consists of n+1 integers. The first integer denotes the size of the arraylist, the next n strings are values to the arraylist.  
Output consists of an arrayas per step 4.  
Refer sample output for formatting specifications.  
  
**Sample Input 1:**  
4  
a  
d  
c  
b  
**Sample Output 1:**  
a  
b  
c  
d

1. **Elements in ArrayList**

Use Collection Methods.  
Write a program that takes two ArrayLists as input and  finds out all elements present either in A or B, but not in both.

Include a class UserMainCode with the static method arrayListSubtractor which accepts the two arraylists and returns an array.  
  
Create a Class Main which would be used to read the inputs and call the static method present in UserMainCode.  
  
**Input and Output Format:**  
  
Input consists of an integer (m) denoting the size of first arraylist. The next m elements would be the values of the first arraylist. The next input would be n denoting the size of the second arraylist. The next n elements would be the values of the second arraylist.  
  
Output consists of an array. The elements in the output array need to be printed in sorted order.  
  
Refer sample output for formatting specifications.  
  
**Sample Input 1:**  
4  
1  
8  
3  
5  
2  
3  
5  
**Sample Output 1:**  
1  
8  
  
**Sample Input 2:**  
4  
9  
1  
3  
5  
4  
1  
3  
5  
6  
**Sample Output 2:**  
6  
9

1. **ArrayList Manipulation**

Write a program that performs the following actions:

1. Read 2n integers as input.
2. Create two arraylists to store n elements in each arraylist.
3. Write a function **generateOddEvenList**which accepts these two arraylist as input.
4. The function fetch the odd index elements from first array list and even index elements from second array list and add them to a new array list according to their index.
5. Return the arraylist.

Include a class UserMainCode with the static method **generateOddEvenList** which accepts two arraylist and returns an arraylist.

Create a Class Main which would be used to read 2n integers and call the static method present in UserMainCode.

Note:

- The index of first element is 0.

- Consider 0 as an even number.

- Maintain order in the output array list

**Input and Output Format:**

Input consists of 2n+1 integers. The first integer denotes the size of the arraylist, the next n integers are values to the first arraylist, and the last n integers are values to the second arraylist.

Output consists of a modified arraylist as per step 4.

Refer sample output for formatting specifications.

**Sample Input 1:**

5

12

13

14

15

16

2

3

4

5

6

**Sample Output 1:**

2

13

4

15

6