HackerRank |

Merge two sorted linked lists

This challenge is part of a tutorial track by MyCodeSchool

Given pointers to the heads of two sorted linked lists, merge them into a single, sorted linked list. Either head pointer may be null meaning that the corresponding list is empty.

Example

headA refers to 1
ightarrow 3
ightarrow 7
ightarrow NULL headB refers to 1
ightarrow 2
ightarrow NULL

The new list is 1 o 1 o 2 o 3 o 7 o NULL

Function Description

Complete the *mergeLists* function in the editor below.

mergeLists has the following parameters:

- SinglyLinkedListNode pointer headA: a reference to the head of a list
- SinglyLinkedListNode pointer headB: a reference to the head of a list

Returns

• SinglyLinkedListNode pointer: a reference to the head of the merged list

Input Format

The first line contains an integer t, the number of test cases.

The format for each test case is as follows:

The first line contains an integer n, the length of the first linked list.

The next n lines contain an integer each, the elements of the linked list.

The next line contains an integer m_i , the length of the second linked list.

The next m lines contain an integer each, the elements of the second linked list.

Constraints

- $1 \le t \le 10$
- $1 \le n, m \le 1000$
- $1 \leq list[i] \leq 1000$, where list[i] is the i^{th} element of the list.

Sample Input

```
2
3
2
3
4
```

Sample Output

```
1 2 3 3 4
```

Explanation

The first linked list is: 1
ightarrow 3
ightarrow 7
ightarrow NULL

The second linked list is: 3 o 4 o NULL

Hence, the merged linked list is: 1 o 2 o 3 o 3 o 4 o NULL