

1203. Sort Items by Groups Respecting Dependencies

Description

There are `n` items each belonging to zero or one of `m` groups where `group[i]` is the group that the `i`-th item belongs to and it's equal to `-1` if the `i`-th item belongs to no group. The items and the groups are zero indexed. A group can have no item belonging to it.

Return a sorted list of the items such that:

- The items that belong to the same group are next to each other in the sorted list.
- There are some relations between these items where `beforeItems[i]` is a list containing all the items that should come before the `i`-th item in the sorted array (to the left of the `i`-th item).

Return any solution if there is more than one solution and return an **empty list** if there is no solution.

Example 1:

Item	Group	Before
0	-1	
1	-1	6
2	1	5
3	0	6
4	0	3, 6
5	1	
6	0	
7	-1	

Input: `n = 8, m = 2, group = [-1,-1,1,0,0,1,0,-1], beforeItems = [[],[6],[5],[6],[3,6],[],[],[6]]`

Output: `[6,3,4,1,5,2,0,7]`

Example 2:

Input: `n = 8, m = 2, group = [-1,-1,1,0,0,1,0,-1], beforeItems = [[],[6],[5],[6],[3],[],[4],[6]]`

Output: `[]`

Explanation: This is the same as example 1 except that 4 needs to be before 6 in the sorted list.

Constraints:

- `1 <= m <= n <= 3 * 104`
- `group.length == beforeItems.length == n`
- `-1 <= group[i] <= m - 1`
- `0 <= beforeItems[i].length <= n - 1`
- `0 <= beforeItems[i][j] <= n - 1`
- `i != beforeItems[i][j]`
- `beforeItems[i]` does not contain duplicates elements.

