2332. The Latest Time to Catch a Bus

Description

You are given a **0-indexed** integer array `buses` of length `n`, where `buses[i]` represents the departure time of the `i`th bus. You are also given a **0-indexed** integer array `passengers` of length `m`, where `passengers[j]` represents the arrival time of the `j`th passenger. All bus departure times are unique. All passenger arrival times are unique.

You are given an integer `capacity`, which represents the **maximum** number of passengers that can get on each bus.

When a passenger arrives, they will wait in line for the next available bus. You can get on a bus that departs at `x` minutes if you arrive at `y` minutes where `y <= x`, and the bus is not full. Passengers with the **earliest** arrival times get on the bus first.

More formally when a bus arrives, either:

- If `capacity` or fewer passengers are waiting for a bus, they will **all** get on the bus, or
- The `capacity` passengers with the **earliest** arrival times will get on the bus.

Return *the latest time you may arrive at the bus station to catch a bus*. You **cannot** arrive at the same time as another passenger.

Note: The arrays `buses` and `passengers` are not necessarily sorted.

Example 1:

```
Input: buses = [10,20], passengers = [2,17,18,19], capacity = 2
Output: 16
Explanation: Suppose you arrive at time 16.
At time 10, the first bus departs with the 0 th passenger.
At time 20, the second bus departs with you and the 1 st passenger.
Note that you may not arrive at the same time as another passenger, which is why you must arrive before the 1 st passenger to catch the bus.
```

Example 2:

```
Input: buses = [20,30,10], passengers = [19,13,26,4,25,11,21], capacity = 2
Output: 20
Explanation: Suppose you arrive at time 20.
At time 10, the first bus departs with the 3 rd passenger.
At time 20, the second bus departs with the 5 th and 1 st passengers.
At time 30, the third bus departs with the 0 th passenger and you.
Notice if you had arrived any later, then the 6 th passenger would have taken your seat on the third bus.
```

Constraints:

- `n == buses.length`
- `m == passengers.length`
- $1 <= n, m, capacity <= 10^5$
- $2 <= buses[i], passengers[i] <= 10^9$
- Each element in `buses` is **unique**.
- Each element in `passengers` is **unique**.