Day 23 - Passengers in each bus

Problem Statement:

Buses and passengers arrive at the LeetCode station. If a bus arrives at the station at a time tbus and a passenger arrived at a time **tpassenger** where **tpassenger** <= **tbus** and the passenger did not catch any bus, the passenger will use that bus. In addition, each bus has a capacity. If at the moment the bus arrives at the station there are more passengers waiting than its capacity capacity, only capacity passengers will use the bus.

- Write a solution to report the number of users that used each bus.
- Return the result table ordered by bus_id in ascending order.

Input:

```
create table buses

(
bus_id int unique,
arrival_time int,
capacity int
);

drop table if exists Passengers;
create table Passengers

(
passenger_id int unique,
arrival_time int
);
```

Table: Buses

integers.

```
+-----+
| Column | Type |
+-----+
| bus_id | int |
| arrival_time | int |
| capacity | int |
+-----+
```

bus_id contains unique values.

Each row of this table contains information about the arrival time of a bus at the LeetCode station and its capacity (the number of empty seats it has). No two buses will arrive at the same time and all bus capacities will be positive

Table: Passengers

+	Type
passenger_	id int
arrival_time	int

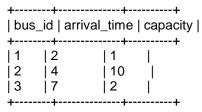
passenger_id contains unique values.

Each row of this table contains information about the arrival time of a passenger at the LeetCode station.

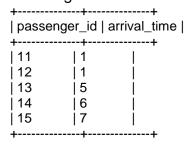
Example 1:

Input:

Buses table:



Passengers table:



Output:

-		
+	+	+
bus	_id pas	ssengers_cnt
+	+	+
1	1	
2	1	j
3	2	İ
+	+	+

SOLUTION

```
with cte
as(
     select row number() over(order by arrival time) as rn, bus id,
     (select count(1) from passengers p where p.arrival time <=</pre>
b.arrival time) as total passengers,
     capacity
     from buses b
),finalcte
as (
     select rn, bus_id, capacity, total_passengers,
case when capacity < total passengers then capacity else</pre>
total passengers end as onboarded bus,
     case when capacity < total passengers then capacity else</pre>
total passengers end as total onboarded
     from cte where rn=1
     union all
     select d.rn, d.bus_id, d.capacity, d.total_passengers,
     case when d.capacity < (d.total_passengers -</pre>
finalcte.total onboarded) then d.capacity else (d.total passengers -
finalcte.total_onboarded) end as onboarded_bus,
     finalcte.total onboarded + case when d.capacity <</pre>
(d.total passengers - finalcte.total onboarded) then d.capacity else
(d.total_passengers - finalcte.total_onboarded) end as
total_onboarded
     from finalcte
     join cte d on d.rn = finalcte.rn+1
select bus id, onboarded bus as passengers cnt
from finalcte
order by bus id;
```

OUTPUT

	bus_id	passengers_cnt
1	1	1
2	2	1
3	3	2