Task 1: Define and calculate the **"New Customers 7-Day Order Rate for the App Channel"** using the provided dataset.

1. **New Customers**: Number of users who app install on a date **(af_install_time_d)** and then place their order via app -> first app order
   First app date:
   - **Already registered user:** signup date before the app install -> app install date, uid
   - **New registration**: signup date on and after the app install -> app install date, af_device_id / uid
   - **Guest user**: no signup date only af_device_id -> app install date, af_device_id

2. **7-Day Order Rate**: % of new customers who placed at least one order in the next 7 days of install date which is app acquisition date.

Calculate how many % of new customers placed at least one order in the next 7 days (including install date).

Metric	Definition
New Customers 7-Day Order Rate for the App Channel	(Number of new users with first app date who placed at least one order via the app in the next 7 days / Number of new users with first app date) * 100
Weekly New Customers 7-Day Order Rate for the App Channel	(Number of new users with first app date during a week and placed at least one order via the app in the next 7 days / Number of new users with first app date during a week) * 100
Monthly New Customers 7-Day Order Rate for the App Channel	(Number of new users who with first app date in a month and placed at least one order via the app in the next 7 days / Number of new users with first app date in a month) * 100

Note: The 7-day order window is always counted from each individual user's install date, not from the start of the week or month.

Why? -> To understand new app user behavior:

At least one order: Defines when a new app user becomes an app customer.
7-Day window: Captures how effectively the app converts new users quickly.
Growth funnel: app install/signup → activation (order within 7 days)

To understand drop off new users from signup to placing an order
New Customer Order Journey Funnel:

Stage	Description
1. First time on app	Number of app users with first app date
2. Visit App	Number of those app users who visited the app within 7 days of installing
3. Visit Product Pages	Number of those app users who visited the app product pages within 7 days of installing
4. Order via App	Number of those users who placed at least one order via the app within 7 days of installing

Note:

- If the user is registered: Match on both uid and af_device_id to ensure the visit is from the same user via the app from the install_and_order_data.
- Metric is calculated for every country code.
- Didn't consider guest users.Only registered users are included for accurate order rates.

SQL:	
New Customers 7-Day Order Rate for the App Channel	with app_user as (Select uid, af_country_code, min(af_install_time_d) as first_app_date from install_and_order_data group by 1,2), final as (Select a.af_country_code, first_app_date, count(distinct a.uid) as new_customers, count(distinct b.uid) as next_7_day_customer from app_user as a left join install_and_order_data as b on a.uid = b.uid and a.af_country_code = b.af_country_code and orderdate between first_app_date and first_app_date + interval '7' day group by 1,2) Select af_country_code, first_app_date, new_customers, (next_7_day_customer/new_customers) * 100 from final

New Customers 7-Day Order Rate for the App Channel -> Split by User Type	with app_user as (Select uid, af_country_code, min(af_install_time_d) as first_app_date from install_and_order_data group by 1,2), app_signup as (Select af_country_code, first_app_date, a.uid, af_device_id, case when signup_date < af_install_time_d then 'existing registered' when signup_date >= af_install_time_d then 'new registration' end as user_type from app_user a left join user_signup_data b on a.uid=b.uid), final as (Select af_country_code, first_app_date, user_type, count(distinct a.uid) as new_customers, count(distinct b.uid) as next_7_day_customer from app_signup as a left join install_and_order_data as b on a.uid = b.uid and a.af_country_code = b.af_country_code and orderdate between first_app_date and first_app_date + interval '7' day group by 1,2,3) Select af_country_code,first_app_date,user_type, new_customers, (next_7_day_customer/new_customers) * 100 from final
New Customer Order Journey Funnel 1. First time on app 2. Visit App within 7 Days 3. Order via App within 7 Days	with app_user as (Select uid, af_country_code, af_device_id,first_app_date from (Select uid, af_country_code, min(af_install_time_d) as first_app_date from install_and_order_data group by 1,2) a left join install_and_order_data b on a.uid = b.uid and a.af_country_code=b.af_country_code), visit_product_page as (Select visit_date, uid, deviceid from user_visit_table where page_product_type in ('H','F','T')),

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final as (
Select af_country_code,first_app_date,
count(distinct a.uid) as installs,
count(distinct b.uid) as visitors,
count(distinct p.uid) as visit_product_page,
count(distinct c.uid) as order_placed
from app_user a
left join user_visit_table b
on (a.uid = b.uid and a.af_device_id = b.deviceid)
and b.visit_date between first_app_date and
first_app_date + interval '7' day
left join visit_product_page p
on (a.uid = p.uid and a.af_device_id = p.deviceid)
and p.visit_date between first_app_date and
first_app_date + interval '7' day
left join install_and_order_data as c
on a.uid = c.uid and orderdate between first_app_date
and first_app_date + interval '7' day
and a.af_country_code = c.af_country_code
group by 1,2
)
Select af_country_code, first_app_date, installs, visitors,
order_placed,
(visitors/installs) * 100 as visitor_rate_7day,
(visit_product_page/installs) * 100 as
visitor_product_page_7day,
(order_placed/installs) * 100
as conversion_rate_7day
from final
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Task 2: Define the **"New Customers 7-Day Flight Order Rate for the App Channel" using the provided dataset.**

For the above defined new customers, Calculate how many % of new customers placed at least one **flight order** in the next 7 days (including install date).

Metric	Definition
New Customers 7-Day Flight Order Rate for the App Channel	(Number of new users with first app date who placed at least one flight order via the app in the next 7 days / Number of new users with first app date) * 100
Weekly New Customers 7-Day Flight Order Rate for the App Channel	(Number of new users with first app date during a week and placed at least one flight order via the app in the next 7 days / Number of new users with first app date during a week) * 100
Monthly New Customers 7-Day Flight Order Rate for the App Channel	(Number of new users who with first app date in a month and placed at least one flight order via the app in the next 7 days / Number of new users with first app date in a month) * 100

SQL:	
New Customers 7-Day Flight Order Rate for the App Channel	with app_user as (Select uid, af_country_code, min(af_install_time_d) as first_app_date from install_and_order_data group by 1,2), final as (Select a.af_country_code, first_app_date, count(distinct a.uid) as new_customers, count(distinct case when ordertype='F' then b.uid end) as next_7_day_customer from app_user as a left join install_and_order_data as b on a.uid = b.uid and a.af_country_code = b.af_country_code and orderdate between first_app_date and first_app_date + interval '7' day group by 1,2) Select af_country_code, first_app_date, new_customers, (next_7_day_customer/new_customers) * 100 from final

New Customers 7-Day Flight Order Rate for the App Channel -> Split by User Type	with app_user as (Select uid, af_country_code, min(af_install_time_d) as first_app_date from install_and_order_data group by 1,2), app_signup as (Select af_country_code, first_app_date, a.uid, af_device_id, case when signup_date < af_install_time_d then 'existing registered' when signup_date >= af_install_time_d then 'new registration' end as user_type from app_user a left join user_signup_data b on a.uid=b.uid), final as (Select af_country_code, first_app_date, user_type, count(distinct a.uid) as new_customers, count(distinct case when ordertype='F' then b.uid end) as next_7_day_customer from app_signup as a left join install_and_order_data as b on a.uid = b.uid and a.af_country_code = b.af_country_code and orderdate between first_app_date and first_app_date + interval '7' day group by 1,2,3) Select af_country_code,first_app_date,user_type, new_customers, (next_7_day_customer/new_customers) * 100 from final