CALL CENTER QUERY

--- **step 1 - create database** ---

```
create database "Project - Call Center Data Analysis"
```

--- **step 2 - create table** ---

```
create table calls
(
id char(100),
customer_name char(100),
sentiment char(100),
csat_score int8,
call_timestamp timestamp,
reason char(100),
city char(100),
state char(100),
channel char(100),
response_time char(100),
"call duration in minutes" int8,
call_center char(100)
)
```

--- **step 3 - import data into table** ---

```
copy calls (id, customer_name, sentiment, csat_score, call_timestamp, reason, city, state, channel,
                response_time, "call duration in minutes", call_center)
from 'D:\SKD\Data Analyst\3. SQL\4. Project\2. Call Center\calls.csv'
delimiter ','
csv header
```

--- **step 4 - data cleaning and processing** ---

```
alter table calls
alter column call_timestamp type date

alter table calls
rename column "call duration in minutes" to call_duration_in_minutes
```

--- **step 5 - exploratory data analysis(eda)** ---

```
-- size and details of data imported
select * from calls
select count(*) as rows from calls
select count(*) as columns from information_schema.columns  where table_name = 'calls'
select column_name, data_type from information_schema.columns where table_name = 'calls'
```

```
-- checking different distinct values
--
select distinct sentiment
from calls

--
select distinct reason
from calls

--
select distinct channel
from calls

--
select distinct response_time
from calls

--
select distinct call_center
from calls

--
select distinct state
from calls

-- count and percentage from total of each of the distinct values
--
select
        sentiment,
        count(*),
        round(100 * count(*) / (select count(*)  from calls), 2) as pct
from calls
group by sentiment
order by pct desc

--
select
        reason,
        count(*),
        round (100 * count(*) / (select count(*) from calls), 2) as pct
from calls
group by reason
order by pct desc

--
select
        channel,
        count(*),
        round (100 * count(*)/(select count(*) from calls), 2) as pct
from calls
group by channel
order by pct desc
```

```
--
select
        response_time,
        count(*),
        round(100 * count(*) / (select count(*) from calls), 2) as pct
from calls
group by response_time
order by pct desc

--
select
        call_center,
        count(*),
        round(100 * count(*) / (select count(*) from calls), 2) as pct
from calls
group by call_center
order by pct desc

--
select
        state,
        count(*)
from calls
group by state
order by count desc

-- which day has most calls
select
        to_char(call_timestamp, 'day') as day,
        count(*) as total_calls
from calls
group by day
order by total_calls desc

-- aggregate functions
--
select
        min(csat_score) as min_score,
        max(csat_score) as max_score,
        round(avg(csat_score), 2) as avg_score
from calls
where csat_score != 0

--
select
        min(call_timestamp) as earliest_date,
        max(call_timestamp) as most_recent
from calls
```

```sql
--
select
        min(call_duration_in_minutes) as min_call_duration,
        max(call_duration_in_minutes) as max_call_duration,
        round(avg(call_duration_in_minutes), 2) as avg_call_duration
from calls

--
select
        call_center,
        response_time,
        count(*) as count
from calls
group by call_center, response_time
order by call_center, count desc

--
select
        call_center,
        round(avg(call_duration_in_minutes), 2) as average
from calls
group by call_center
order by average desc

--
select
        channel,
        round(avg(call_duration_in_minutes), 2) as average
from calls
group by channel
order by average desc

--
select
        state,
        count(*) as total_count
from calls
group by state
order by total_count desc

--
select
        state,
        reason,
        count(*)
from calls
group by state, reason
order by state, reason, count
```

```sql
--
select
        state,
        sentiment,
        count(*)
from calls
group by state, sentiment
order by state, count desc

--
select
        state,
        round(avg(csat_score), 2) as avg_csat_score
from calls
where csat_score != 0
group by state
order by avg_csat_score desc

--
select
        sentiment,
        round(avg(call_duration_in_minutes), 2) as avg_call_duration
from calls
group by sentiment
order by avg_call_duration desc

-- how many calls are within, below or above the service-level-agreement time
select
        call_timestamp,
        max(call_duration_in_minutes)
        over (partition by call_timestamp) as max_call_duration
from calls
group by call_duration_in_minutes, call_timestamp
order by max_call_duration desc
```