```
--Database

Create database sql_projet_p1



__create table

drop table if exists retail_sales;
CREATE TABLE retail_sales
(           transactions_id int primary key,
            sale_date Date,
            sale_time Time,
            customer_id Int,
            gender Varchar(15),
            age int,
            category Varchar(15),
            quantiy int,
            price_per_unit float,
            cogs float,
                                    total_sale float
)

-shoow data

select * from retail_sales;

--COUNT NO OF ROWS

select
```

```
    count(*)
from retail_sales;

SELECT * FROM RETAIL_SALES WHERE TRANSACTIONS_ID IS NULL;

SELECT *
FROM RETAIL_SALES
WHERE SALE_DATE IS NULL
  OR SALE_TIME IS NULL
  OR CUSTOMER_ID IS NULL
  OR GENDER IS NULL
  OR AGE IS NULL
  OR CATEGORY IS NULL
  OR quantiy IS NULL
  OR PRICE_PER_UNIT IS NULL
  OR COGS IS NULL
  OR TOTAL_SALE IS NULL;

--DELETE FORM RETAILS_SALES

DELETE
FROM RETAIL_SALES
WHERE TRANSACTIONS_ID IS NULL
  OR  SALE_DATE IS NULL
  OR SALE_TIME IS NULL
  OR CUSTOMER_ID IS NULL
  OR GENDER IS NULL
  OR AGE IS NULL
  OR CATEGORY IS NULL
```

```
  OR quantiy IS NULL
  OR PRICE_PER_UNIT IS NULL
  OR COGS IS NULL
  OR TOTAL_SALE IS NULL;

-- HOW MANY SALES WE HAVE

SELECT COUNT(*) AS TOTAL_SALES FROM RETAIL_SALES;

-- HOW MANY UNIOUE CUSTOMER WE HAVE

SELECT COUNT(DISTINCT CUSTOMER_ID) AS TOTAL_SALES FROM RETAIL_SALES;
-- HOW MABY CATGORY TYPE

SELECT DISTINCT CATEGORY AS DIFFERENT_CATGORY FROM RETAIL_SALES;

-- Write a SQL query to retrieve all columns for sales made on '2022-11-05:

SELECT * FROM RETAIL_SALES WHERE SALE_DATE ='2022-11-05'

--Write a SQL query to retrieve all transactions where the category is
--'Clothing' and the quantity sold is more than 4 in the month of Nov-2022:

SELECT * FROM RETAIL_SALES
  WHERE CATEGORY ='Clothing'
  AND TO_CHAR(SALE_DATE,'YYYY-MM')='2022-11'
  AND QUANTIY < 4

-- Write a SQL query to calculate the total sales (total_sale) for each category.
```

```
SELECT CATEGORY,
    SUM (total_sale) AS NET_SALE,
        COUNT(*) AS TOTAL_ORDER
FROM RETAIL_SALES
GROUP BY CATEGORY
```

-- Write a SQL query to find the average age of customers who purchased items from the 'Beauty' category

```
SELECT
  ROUND(AVG(age), 2) as avg_age
FROM retail_sales
WHERE category = 'Beauty'
```

-- Write a SQL query to find all transactions where the total_sale is greater than 1000.:

```
SELECT * FROM RETAIL_SALES WHERE TOTAL_SALE <1000;
```

-- Write a SQL query to find the total number of transactions (transaction_id) made by each gender in each category.:

```
SELECT
  CATEGORY,
        GENDER,
        COUNT(*) AS TOTAL_COUNT
FROM RETAIL_SALES
```

```
   GROUP BY
        CATEGORY,
        GENDER
ORDER BY 1
```

-- Write a SQL query to calculate the average sale for each month. Find out best selling month in each year:

```
SELECT YEAR,
     MONTH,
          AVG_SALE
FROM
(SELECT
     EXTRACT(YEAR FROM SALE_DATE) AS YEAR,
          EXTRACT( MONTH FROM SALE_DATE) AS MONTH,
          COUNT(*) AS AVG_SALE ,
          RANK() OVER(PARTITION BY EXTRACT(YEAR FROM sale_date) ORDER BY AVG(total_sale) DESC)
as rank
          FROM RETAIL_SALES
          GROUP BY 1, 2
          ) as t1
WHERE rank = 1
```

-- *Write a SQL query to find the top 5 customers based on the highest total sales **:

```
SELECT customer_id,
    sum(total_sale) as totalsale
FROM RETAIL_SALES
```

```
    group by
            customer_id
            order by customer_id asc
            limit 5


SELECT
   customer_id,
   SUM(total_sale) as total_sales
FROM retail_sales
GROUP BY 1
ORDER BY 2 DESC
LIMIT 5

--Write a SQL query to find the number of unique customers who purchased items from each category.


select customers_id,
      count(distinct category) as dis_cat
 from retail_sales
 group by category

-- Write SQL query to create each shift and number of orders (Example Morning <12, Afternoon Between
12 & 17, Evening >17)
WITH hourly_sale
AS
(
SELECT *,
   CASE
      WHEN EXTRACT(HOUR FROM sale_time) < 12 THEN 'Morning'
      WHEN EXTRACT(HOUR FROM sale_time) BETWEEN 12 AND 17 THEN 'Afternoon'
```

```
        ELSE 'Evening'
    END as shift
FROM retail_sales
)
SELECT
    shift,
    COUNT(*) as total_orders
FROM hourly_sale
GROUP BY shift
```