Assignment 5:

1- Table Creation:

```
create table Sales(
id NUMBER GENERATED BY DEFAULT AS IDENTITY PRIMARY KEY;
ProductName varchar2(2000) not null,
Category varchar2(2000),
QuantitySold number(38,0),
PricePerUnit number(38,10),
DaleDate date
);
```

2- Sample data insertion:

insert into Sales (ProductName, Category, QuantitySold, PricePerUnit, DaleDate) values ('Laptop','Electronics','2','1000.00',TO_DATE('2024-01-05', 'YYYY-MM-DD'));

insert into Sales (ProductName, Category, QuantitySold, PricePerUnit, DaleDate) values ('Phone', 'Electronics', '5', '500.00', TO DATE('2024-01-10', 'YYYY-MM-DD'));

insert into Sales (ProductName, Category, QuantitySold, PricePerUnit, DaleDate) values ('Headphones','Accessories','10','50.00',TO_DATE('2024-01-15', 'YYYY-MM-DD'));

insert into Sales (ProductName, Category, QuantitySold, PricePerUnit, DaleDate) values ('Desk','Furniture','1','200.00',TO_DATE('2024-01-20', 'YYYY-MM-DD'));

insert into Sales (ProductName, Category, QuantitySold, PricePerUnit, DaleDate) values ('Chair', 'Furniture', '4', '150.00', TO_DATE('2024-01-25', 'YYYY-MM-DD'));

- Result:

	∯ID	♦ PRODUCTNAME			♦ PRICEPERUNIT	
1	2	Laptop	Electronics	2	1000	05/JAN/24
2	3	Phone	Electronics	5	500	10/JAN/24
3	4	Headphones	Accessories	10	50	15/JAN/24
4	5	Desk	Furniture	1	200	20/JAN/24
5	6	Chair	Furniture	4	150	25/JAN/24

3- Applying provided query statements:

- Retrieve all sales transactions where the product category is "Electronics".

```
select * from Sales where Category = 'Electronics';
```

Result:

	∯ ID				PRICEPERUNIT	
1	2	Laptop	Electronics	2	1000	05/JAN/24
2	3	Phone	Electronics	5	500	10/JAN/24

- Retrieve all sales transactions that occurred between January 10, 2024, and January 25, 2024.

```
select * from Sales

where DaleDate >= TO_DATE('2024-01-10', 'YYYY-MM-DD')

AND DaleDate <= TO_DATE('2024-01-25', 'YYYY-MM-DD');
```

	∯ ID				♦ PRICEPERUNIT	
1	3	Phone	Electronics	5	500	10/JAN/24
2	4	Headphones	Accessories	10	50	15/JAN/24
3	5	Desk	Furniture	1	200	20/JAN/24
4	6	Chair	Furniture	4	150	25/JAN/24

- Retrieve all sales where the price per unit is greater than \$100.

```
select * from Sales where PricePerUnit > 100;
```

Result:

	∯ ID					
1	2	Laptop	Electronics	2	1000	05/JAN/24
2	3	Phone	Electronics	5	500	10/JAN/24
3	5	Desk	Furniture	1	200	20/JAN/24
4	6	Chair	Furniture	4	150	25/JAN/24

- Retrieve all sales where the quantity sold is less than or equal to 3.

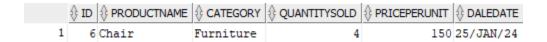
```
select * from Sales where QuantitySold <= 3;</pre>
```

	∯ ID	♦ PRODUCTNAME			♦ PRICEPERUNIT	
1	2	Laptop	Electronics	2	1000	05/JAN/24
2	5	Desk	Furniture	1	200	20/JAN/24

- Retrieve all sales of "Furniture" products where the quantity sold is greater than 2.

select * from Sales where Category = 'Furniture' AND QuantitySold > 2;

Result:



 Retrieve all sales where the product name starts with the letter "L" (using pattern matching with LIKE).

select * from Sales where ProductName like 'L%';



- Retrieve all sales where the category is not null.

select * from Sales where Category is not null;

Result:

	∯ ID	♦ PRODUCTNAME			♦ PRICEPERUNIT	
1	2	Laptop	Electronics	2	1000	05/JAN/24
2	3	Phone	Electronics	5	500	10/JAN/24
3	4	Headphones	Accessories	10	50	15/JAN/24
4	5	Desk	Furniture	1	200	20/JAN/24
5	6	Chair	Furniture	4	150	25/JAN/24

- Retrieve all sales that occurred on January 20, 2024.

select * from Sales where DaleDate = TO_DATE('2024-01-20', 'YYYY-MM-DD');

Result:



- Retrieve all sales where the price per unit is between \$50 and \$500.

select * from Sales where PricePerUnit between 50 AND 500;

	∯ ID					
1	3	Phone	Electronics	5	500	10/JAN/24
2	4	Headphones	Accessories	10	50	15/JAN/24
3	5	Desk	Furniture	1	200	20/JAN/24
4	6	Chair	Furniture	4	150	25/JAN/24

Retrieve all sales where either the category is
 "Electronics" or the quantity sold is greater than
 4.

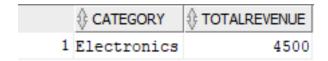
select * from Sales where Category = 'Electronics' OR QuantitySold > 4;

Result:

	∯ ID	♦ PRODUCTNAME			♦ PRICEPERUNIT	
1	2	Laptop	Electronics	2	1000	05/JAN/24
2	3	Phone	Electronics	5	500	10/JAN/24
3	4	Headphones	Accessories	10	50	15/JAN/24

- Find the total revenue generated for each product category, but only for categories where the total revenue is greater than \$1000.

select Category, sum(QuantitySold*PricePerUnit) as TotalRevenue from Sales Group by Category having sum(QuantitySold*PricePerUnit) > 1000;



 For each product, find the total quantity sold, but only for products where more than 3 units have been sold.

```
select ProductName, sum(QuantitySold)

from Sales Group by ProductName

having sum(QuantitySold) > 3;
```

Result:

	♦ PRODUCTNAME	\$ SUM(QUANTITYSOLD)
1	Phone	5
2	Headphones	10
3	Chair	4

- Find the average price per unit for each category, but only for categories where the average price is greater than \$200.

```
select Category, avg(PricePerUnit)

from Sales Group by Category

having avg(PricePerUnit) > 200;
```

```
CATEGORY AVG(PRICEPERUNIT)

1 Electronics 750
```

 Retrieve the maximum quantity sold for each product category, but only for categories that have sold at least 10 units in total.

```
select Category, max(QuantitySold)

from Sales Group by Category

having sum(QuantitySold) >= 10;
```



- Find the number of sales transactions for each product, but only include products that have had more than 2 sales transactions.

```
select ProductName, count(*)
from Sales Group by ProductName
having count(*) > 2;
```

Result:



 Find the minimum price per unit for each product category, but only for categories that have sold more than 5 units.

```
select Category, min(PricePerUnit)
from Sales Group by Category
having sum(QuantitySold) > 5;
```

1	Electronics	500
2	Accessories	50

 Calculate the total quantity sold for each product, but only for products where the total revenue generated (QuantitySold * PricePerUnit) exceeds \$500.

```
select ProductName, sum(QuantitySold)
from Sales Group by ProductName
having sum(QuantitySold*PricePerUnit) > 500;
```

Result:

	♦ PRODUCTNAME	\$ SUM(QUANTITYSOLD)
1	Laptop	2
2	Phone	5
3	Chair	4

 Retrieve the total number of sales transactions for each category, but only for categories that have more than 2 distinct products sold.

```
select Category, count(*)

from Sales Group by Category

having count(distinct ProductName) > 2;
```



 Find the average quantity sold for each product, but only for products where the total quantity sold exceeds 8 units.

```
select ProductName, avg(QuantitySold)

from Sales Group by ProductName

having sum(QuantitySold) > 8;
```

Result:

	♦ PRODUCTNAME	
1	Headphones	10

 For each category, retrieve the total number of products sold and the total revenue, but only for categories where the total number of products sold is greater than 6.

```
select Category, sum(QuantitySold), sum(QuantitySold * PricePerUnit)
from Sales Group by Category
having sum(QuantitySold) > 6;
```

	\$ SUM(QUANTITYSOLD)	\$ SUM(QUANTITYSOLD*PRICEPERUNIT)
1 Electronics	7	4500
2 Accessories	10	500