

```
select * from customer_table ;
```

```
alter table customer_table add test varchar(255)
```

```
alter table customer_table drop test ;
```

```
alter table customer_table drop column test ;
```

```
alter table customer_table alter column age type varchar(255) ;
```

```
alter table customer_table rename column first_nam to first_name ;
```

```
alter table customer_table alter column cust_id set not null ;
```

```
insert into customer_table(first_name, last_name, age, email_id) values  
('aa', 'bb', '25', 'abc@xyz.com') ;
```

```
alter table customer_table alter column cust_id drop not null ;
```

```
DELETE FROM customer_table WHERE cust_id IS NULL;
```

```
alter table customer_table add constraint cust_id check (cust_id>0) ;
```

```
alter table customer_table add primary key (cust_id) ;
```

```
UPDATE Science_class SET science_marks = 45 WHERE enrollment_no = 1;
```

```
select * from customer ;
```

```
select * from product ;
```

select * from sales ;

select * from customer where city in ('Philadelphia', 'Seattle') ;

select * from customer where city = 'Philadelphia' OR city ='Seattle' ;

select * from customer where age between 20 and 30 ;

select * from customer where age >= 20 and age <= 30 ;

select * from customer where age not between 20 and 30 ;

/*

multi line comments

*/

--single line comments

/* Like Comments*/

/*

Here % and _ is called as wild card

% represents n number of characters

_ represents one character

*/

select * from customer where customer_name like 'J%';

select * from customer where customer_name like '%Nelson%';

select * from customer where customer_name like '____ %';

/*customer has 4 words in first name and with 'n' number of words as second name */

```
select * from customer where city not like 'S%';
```

```
select * from customer where customer_name like 'G\%';
```

/*Here the \ is know as the escape charachter which treats % as a charachter and not as wild card*/

/*exercise*/

```
select * from customer order by customer_name asc ;
```

```
select distinct city from customer where region in ('Central', 'East');
```

```
select * from sales where sales between 100 and 500 ;
```

```
select distinct customer_name from customer where customer_name like '% ____';
```

/* oder by */

```
select * from customer where state = 'California' order by customer_name;
```

```
select * from customer where state = 'California' order by customer_name asc;
```

```
select * from customer where state = 'California' order by customer_name desc;
```

```
select * from customer order by city asc, customer_name desc;
```

```
select * from customer where state = 'California' order by city asc, customer_name desc;
```

/*

```
ORDER BY 2 DESC;
```

where 2 indicates the column number without specifying te name of the column

*/

```
select * from customer order by 2 asc;
```

```
select * from customer order by age desc;
```

```
/*Limiting number of return outputs*/
```

```
select * from customer where age >= 25 order by age desc limit 8;
```

```
select * from customer where age > 25 order by age asc limit 10;
```

```
/* exercise */
```

```
select * from sales limit 5 ;
```

```
select * from sales where discount > 0 order by discount desc ;
```

```
select * from sales where discount > 0 order by discount desc limit 10;
```

```
/* AS alias
```

```
provides second name for the column name or table name
```

```
*/
```

```
select customer_id as "Serial Number", customer_name as "Name", age as "Customer_age" from  
customer ;
```

```
select customer_id as "Serial Number", customer_name as Name, age as Customer_age from  
customer ;
```

```
/* "" is used for names with spaces or to retain the capital initials
```

```
if not used then the names are named as small letters like Name will be changed to name
```

```
run this query for better understanding
```

```
*/
```

```
/* COUNT */
```

```
select count(*) from sales ;
```

```
select count(order_line) as "Number Of Products Ordered", count (distinct order_id) as "Number of Orders" from sales where customer_id = 'CG-12520';
```

```
/* SUM */
```

```
select sum(profit) as "Total Profit" from sales ;
```

```
select sum(quantity) as "Total Quantity" from sales where product_id = 'FUR-TA-10000577' ;
```

```
/* AVERAGE */
```

```
select avg(age) as "Average Customer Age" from customer ;
```

```
select avg(sales * 0.10) as "Average Commision Value" from sales ;
```

```
/* MIN MAX */
```

```
select min(sales) as "Minimum Sales Value June" from sales where order_date between '2015-06-01' and '2015-06-30' ;
```

```
select sales from sales where order_date between '2015-06-01' and '2015-06-30' order by sales asc ;
```

```
select max(sales) as "Maximun Sales Value June" from sales where order_date between '2015-06-01' and '2015-06-30' ;
```

```
/* exercise */
```

```
select sum(sales) as "Total Sales" from sales ;
```

```
select count(distinct customer_id) from customer where age between 20 and 30 ;
```

```
select avg(age) as "Average Age of Customers In East Region" from customer where region in ('East')  
;
```

```
select min(age) as "Minimum Age of Customer", max(age) as "Maximum Age Of Customer" from  
customer where city in ('Philadelphia');
```

```
select min(age) as "Minimum Age of Customer", max(age) as "Maximum Age Of Customer" from  
customer where city like ('P%a');
```

```
/* GROUP BY */
```

```
select region, count(customer_id) as "Customer Count" from customer group by region ;
```

```
select product_id, sum(quantity) as "Quantity Sold" from sales group by product_id order by  
"Quantity Sold" desc ;
```

```
/* ALL QUERY LEARNED SO FAR */
```

```
select customer_id, min(sales) as "Minimun Sales", max(sales) as "Maximun Sales", avg(sales) as  
"Average Sales", sum(sales) as "Total Sales" from sales group by customer_id order by "Total Sales"  
desc limit 5 ;
```

```
/* HAVING */
```

```
select region, count(customer_id) as "Customer Count" from customer group by region having  
count(customer_id)>200;
```

```
select region, count(customer_id) as "Customer Count" from customer where customer_name like  
'A%' group by region ;
```

```
select region, count(customer_id) as "Customer Count" from customer where customer_name like 'A%' group by region having count(customer_id) >15;
```

```
/* exercise */
```

```
select * from sales limit 1 ;
```

```
select * from customer limit 1 ;
```

```
select sum(sales) as "Total sales", sum(quantity) as "Total quantity", count(order_id) as "Number of Orders", max(sales) as "Max Sales Value", min(sales) as "Min Sales Value" , avg(sales) as "Average Sales Value" from sales ;
```

```
select product_id, count(product_id) as "List Of Product IDs" from sales group by product_id having count(quantity) > 10 ;
```

```
/* CASE EXPRESSIONS */
```

```
SELECT *,  
        CASE WHEN age < 30 THEN 'Young'  
              WHEN age > 60 THEN 'Citizen'  
              ELSE 'Middle Aged'  
              END AS Age_Category  
FROM customer ;
```

```
/* JOINS */
```

```
/*Creating sales table of year 2015 */
```

```
/* Creating table with customre age between 20 and 30 */
```

```
/*Creating sales table of year 2015*/
```

Create table sales_2015 as select * from sales where ship_date between '2015-01-01' and '2015-12-31';

select count(*) from sales_2015; --2131

select count(distinct customer_id) from sales_2015;--578

/* Customers with age between 20 and 60 */

create table customer_20_60 as select * from customer where age between 20 and 60;

select count (*) from customer_20_60;--597

/* INNER JOIN || (A n B)

Gives the Intersection of two tables

*/

select

a.order_line,

a.product_id,

a.customer_id,

a.sales,

b.customer_name,

b.age

from sales_2015 as a

inner join customer_20_60 as b

on a.customer_id = b.customer_id

order by customer_id ;

/* LEFT JOIN || (A U B')

outputs all of A and intersection of A and B

*/


```

select
    a.order_line,
    a.product_id,
    a.customer_id,
    a.sales,
    b.customer_name,
    b.age
from sales_2015 as a
left join customer_20_60 as b
on a.customer_id = b.customer_id
order by customer_id ;

```

/* RIGHT JOIN || (A' U B)

outputs all of B and intersection of A and B

to get all the values of right table, always remember to select the common column name from the right table rather than from the left table in right join

*/

```

select
    a.order_line,
    a.product_id,
    b.customer_id, --selecting the common column from the right join table
    a.sales,
    b.customer_name,
    b.age
from sales_2015 as a
right join customer_20_60 as b
on a.customer_id = b.customer_id

```

```
order by customer_id ;
```

```
/* FULL JOIN || (A U B) */
```

```
select
```

```
    a.order_line,
```

```
    a.product_id,
```

```
    a.customer_id,
```

```
    a.sales,
```

```
    b.customer_name,
```

```
    b.age,
```

```
    b.customer_id
```

```
from sales_2015 as a
```

```
full join customer_20_60 as b
```

```
on a.customer_id = b.customer_id
```

```
order by a.customer_id, b.customer_id ;
```

```
/* CROSS JOIN */
```