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Basics Of SQL :-

```
create database A_BasicsOfSQL --> Way to create a database on any platform.

create table emp(ename char(20), id integer, dob date); --> Method to create data table.

desc emp; --> Way to describe the 'emp' table

insert into emp values('Aman', 18, '2004/11/02'); --> Method to insert data into the table.

insert into emp(ename char(20), dob date); --> Another way to insert data into the table.
values('Nitika', '2005/01/12');

select *from emp; --> This is used to display whole table in the output.
```

Constraints :-

```
--> Key Words --> 'Not Null', 'Unique', 'Check', 'Default'.
```

```
-- Following is the way to use above key words.
```

```
create table myServer(
id int not null unique,
name varchar(50) not null,
age int not null check(age>=18),
gender varchar(10) not null,
phone varchar(10) not null unique,
city varchar(10) not null default 'Gzp'
);
```

```
--> Way to insert data into the database is as follow :-
```

```
insert into myserver(id, name, age, gender, phone, city)
values
(1, "Aman", 18, "M", "6306805527", "Ghazipur"),
(2, "Nitika", 18, "F", "6306505042", "Ghazipur"),
(3, "Neha", 19, "F", "6387205471", "Aurangabad"),
(4, "Amrit", 20, "M", "9795544677");
```

```
--> Way to display particular data from the database
select name, phone
from myServer
where id in (1, 2);

--> Another way to display the data from database using 'Alias'
select id as ID, name as Students, phone as "Contact Number"
from myServer
where id in (1, 2);

--> Displaying the name given in the table as per ascending or descending order.
SELECT * FROM myserver
order by name desc;

--> We can order multiple column also.
SELECT * FROM a_basicsofsqlmyserver
order by name, city; --> By default it is in ascending order.

--> Distinct values :-
SELECT Distinct city FROM myserver
order by city desc;

--> To get the data from database where any column is having any null value.
SELECT * FROM emp
where age is null;

--> To get the data from database where any column is having any not null value.
SELECT * FROM emp
where age is not null;
```

And Or In Not Like Between :-

--> Use of 'And' operator.

```
select name, phone
from myServer
where age>=18 and age<=22;
```

--> Use of 'Or' operator.

```
select name, phone
from myServer
where age<=20 or age>=30 or age = 20;
```

--> Combine use of 'And' and 'Or' operator.

```
select name, phone
from myServer
where (age>=18 or age<=22) and gender = 'M';
```

--> Use of 'Not' operator.

```
select name as Students, phone as "Contact Number"
from myserver
where not city = "Gzp";
```

```
select name as Students, phone as "Contact Number"
from myserver
where not (city = "Gzp" or age>=20);
```

--> Use of 'In' operator.

```
select name as Students, phone as "Contact Number"
from myserver
where age in (18, 20);
```

--> Use of 'Not In' operator.

```
select name as Students, phone as "Contact Number"
from myserver
where age not in (18, 20);
```

```

--> Use of 'Between' operator.

select name as Students, phone as "Contact Number"
from myserver
where age between 18 and 20;

select name as Students, phone as "Contact Number"
from myserver
where name between 'a' and 'k';

--> Instead of writing 'a' we can write whole name like "Aman" but still it take only the
1st character.

--> Use of 'Not Between' operator.

select *from myserver
where id not between 1 and 2;

--> Use of 'Like' operator.

select *from myserver
where name like "A_a%";

select *from myserver
where name like "A__m%";

select *from myserver
where name like "%n";

select *from myserver
where name like "A_a%";

select *from myserver
where name like "A_a%" or name like "N%";

select *from myserver
where name not like "A_a%";

select *from myserver
where binary name like "A_a%"; --> We use 'Binary' to get case sensitive characters.

```

Regular Expression :-

--> Regular Expression Patterns with Description :-

| Sign | Pattern | Description |
|----------|-----------------|------------------------------------------------------|
| ^ | '^an' | Beginning of string |
| \$ | 'an\$' | End of string |
| [...] | '[anr]' | Any char listed b/w the square brackets. |
| ^[...] | '^[anr]' | Begins with any char listed b/w the square brackets. |
| [a-z] | '[a-n]e' | Match with the range |
| p1 p2 p3 | 'Aman Neha xyz' | Match any of the patterns p1, p2, p3 |

```
select *from myserver
where name REGEXP 'ra';
```

```
select *from myserver
where name REGEXP '^am'
```

```
select *from myserver
where name REGEXP 'n$';
```

```
select *from myserver
where name REGEXP 'Aman|Neha';
```

```
select *from myserver
where name REGEXP '^Am|a$';
```

```
select *from myserver
where name REGEXP '[ANV]';
```

```
select *from myserver
where name REGEXP '^[Am]';
```

```
select *from myserver
where name REGEXP '[ki]$';
```

```

select *from myserver
where name REGEXP '[Am]n'; --> Checks for char. having combination of 'An' or 'mn'.

select *from myserver
where name REGEXP 'n[Akm]'; --> Checks for char. having combination of 'na' or 'nk' or
'nm'.

select *from myserver
where name REGEXP '[A-l]n'; --> Checks for char. having combination with 'n' in range of
[a-l].

```

Count Max Min Sum Avg :-

```

--> To get the number of records in the database.
select count(*) from myserver;

--> To get the number distinct records in the given database.
select count(distinct age) as "Count Of Record"
from myserver;

--> To get the minimum respective values from the database.
select min(age) as "Min Age"
from myserver;

--> To get the maximum respective values from the database.
select max(age) as "Max Age"
from myserver;

--> To get the sum of the particular values in the database.
select sum(age) as "Total Age"
from myserver;

```

--> To get the average of the particular values from the database.

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

--> To update any column value of the database.

```
update myserver  
set phone = "9696123025"  
where id = 2;
```

--> We can update two or more column at a time

```
update myserver  
set age = 22, phone = "6306805527"  
where id = 1;
```