---------indexes in mysql

select * from dept

where deptno=200;

------indexes are created automatically for primary key and unique

create index my_sal_idx

on emp(sal)

create index my_sal_idx1

on myemp(sal)

-----to create index using alter table

alter table emp add index(sal)

drop index my_sal_idx on emp;

Empno	Ename	Sal	Deptno	desg
12	Rajas	34000	20	CLERK
14	Rashmi	45000	30	SALESman
15	Anil	150000	10	CEO
16	Swapnali	25000	20	Programmer
17	Swapnali	25000	20	Programmer
18	Sonali	30000	30	Programmer
19	Sonali	35000	30	Programmer

product(pid,pname,qty,price) --------2000 , 3000

select * from emp where sal between 20000 and 50000

my_sal_idx

sal	position
25000	4,5
30000	6
34000	1
35000	7
45000	2
150000	3

Why to use index

1. to run queries faster which uses where clause or order by clause

2. optimize the query execution for group by clause
3. finding min() and max() faster

----drawback

1. DML(insert, delete, update) operations will become slow
2. memory requirements will grow

-----to create composite index

create index my_sal_idx

on emp(sal desc ,job)

Types of indexes

1. unique index
   this does not allow duplicate values in the column

   create unique index passport_idx
   on emp(passport)

2. primary key
   to create this index automatically add primary key constraint on table.

3. regular index or normal index
   create index sal_idx
   on emp(sal,job)

4. Full text
   these indexes helps to search certain words in large text
   these indexes are uses in e-commerce site, search engines.

   fulltext indexes are supported by InnoDB,MyISAM'can be created only on columns of type char, varchar,text

   create fulltext index product_description_idx
   on emp(product_desc)

5. spatial index
   not widely used
   these are created on column which may contain most of the values null and we want to add only not null values in the column.

   create spatial index sal_idx
   on emp(sal,job)

6. descending index

create index sal_idx

on emp(sal desc,job)

------- to see all indexes

show indexes from emp

--------to drop index

drop index indexname on tablename

-------- to check which index is used in the table for the query

Create index ename_idx

On emp(ename);

explain select * from emp where ename='BLAKE'

select * from emp

use index(ename_idx,sal_idx)

where ename='BLAKE'

-----create temporary table

Create temporary table mytab(

Id int, name varchar(20)

)

--------views

1. normal views
2. materialized view
3. inline view

why to use views

1. to give access to limited information from the table
2. hide the complicated queries
3. to keep tables in secure way

DML operation are allowed on views, only if it is based on single table and all notnull columns of the table are part of view, and it is not read only view

```
create view mgr10
   -> as
   -> select *
   -> from emp
   -> where deptno=10
   -> with check option;
```

```
create view mgr10
   -> as
select empno,ename,job, sal,deptno from emp
where deptno=10
with check option
with read only;  ---------- works in oracle
```

------drop views

```
Drop view mgr10
```

```
Create view all_emp
as
Select * from emp_india
Union
Select * from emp_japan
Union
Select * from emp_US;
```

----to create materialized view

Create materialized view aggregate_data(deptno,sum,count,min,max)

as

select deptno,sum(sal+ifnull(comm,0), count(*),min(sal),max(sal)

from emp

group by deptno

select * from aggregate_data;

---to see the base query of the view

show create view mgr10;