Arithmetic operators

+, -, *, /, %

Relational operators

>=, <=,> ,<,=, !=

==Logical operators==

and , or, not

*****assume that 20 records are there with 3 records have name Rajan in it and 7 records has salary >4000.

In and operator first if first condition is true then only 2nd condition gets checked

In or operator if first condition is false then only second condition gets checked

select *

from emp

where ename='Rajan' and sal>4000--------fast will check 23 conditions(20+3)

where sal>4000 and ename='Rajan'--------slower will check 27conditions(20+7)

Other operators

[not] in	It is used to check equality with multiple values with or condition	To check sal is either =2000 or 4000 Sal in (2000,4000) To check sal is not either =2000 or 4000 Sal not in (2000,4000)

[not] Between....and	To check the range of values we use between and operator. And the given values are inclusive	To check Sal>=2000 and sal <=4000 Sal between 2000 and 4000 To check Sal<2000 and sal >4000 Sal not between 2000 and 4000
[not] Like	To check the pattern then we use like operator In this operator % matches with 0 or more characters _ (underscore) → matches with 1 character	To find all names starts with A Name='A%' To find all names ends with A Name='%A' To find all names starts with A, k at 3rd position Name='A_K%' To find all names starts with A, and ends with k Name='A %K'

REGEXP---> instead of Like we can use REGEXP

^	To find the pattern at the beginning of the string
$	To find the pattern at the end of the string
+	It matches with 1 or more occurrences of preceding pattern
*	It matches with 0 or more occurrences of preceding pattern
?	It matches with 0 or 1 occurrences of preceding pattern
{m}	It matches with exactly m occurrences of preceding pattern
{m,n}	It matches with minimum m or maximum n occurrences of preceding pattern
{m,}	It matches with minimum m or maximum any occurrences of preceding pattern
[A-Za-z]	It matches with any alphabet
[0-9]	It matches with any digit
[ABC]	It means either A or B or C
.	Matches with any one character it can be alphabet or digit or special character
(abc|pqr|xyz)	Matches with either abc or pqr or xyz

^A.*N$	AN, AxN, AXXN, Asdfghjkjkljklk;kl;lN
^[AM]	Axcvdfs, Mskjdhf jkshdjfhhsd
^A..S	AweSdjkfhgjdh,AdkS
^Ax{5}N	AxxxxxN
^A.*N$\|^M\|^.*N.*R$	Ajdfhjk dfhjN, Mshdgfhgs, kjsdhfjkhsNkjefhjskhdR

Derived columns

In calculation if any column contains null value then use ifnull function to replace null value with some number.

To display empno, name, sal, commission and net salary = sal + comm

select empno,ename,sal,comm,ifnull(comm,0),sal+ifnull(comm,0)

   -> from emp

If alias name contains space then eclosing it in double quotes is mandatory

Otherwise it is optional.

mysql> select empno "Emp number" ,ename,sal,comm,ifnull(comm,0),sal+ifnull(comm,0) "Net sal"

   -> from emp;

Using distinct keyword

To display different values in any column (to display unique values)

Select distinct job

From emp;

Built-in functions available in mysql

The built-in functions are of 2 categories

1. Single row functions --- can be used in select clause as well as where clause
2. Aggregate functions or multirow functions

Number functions

Round(val, n)	Helps to round the value up to n decimal places	select empno,ename,sal,round(sal+sal/3,2) Netsal -> from emp;
truncate(val, n)	Helps to truncate the value up to n decimal places	select empno,ename,sal,truncate(sal+sal/3,2) Netsal -> from emp;
Ceil(val)	It gives integer o/p. always remove fraction portion and displays the next value.	select empno,ename,sal,ceil(sal+sal/3) Netsal from emp;
Floor(val)	It gives integer o/p. always remove fraction portion and displays the previous largest number.	select empno,ename,sal,floor(sal+sal/3) Netsal from emp;
Abs(val)	It display the value always in +ve	Select abs(-3)
Mod(val,n)	Displays remainder of val%n	Select mod(11,2) ans :1

Character functions

Upper()	To convert all the characters in uppercase	
Lower()	To convert all the characters in lowercase	

Substr(value,start,length)	It will display length number of characters from start position. Calculation starts from 1	
Concat(x,y,z,…..) In oracle concat function accepts only 2 parametrs Concat (Concat(x,y),z)	Concatenate all the strings	
Left(val,n)	It will retrieve n characters from left side of the string	
Right(val,n)	It will retrieve n characters from right side of the string	
Rpad(val,n,ch)	To add character ch on right side of val, so that the max length of the val=n	
lpad(val,n,ch)	To add character ch on left side of val, so that the max length of the val=n	
Instr(val,ch)	It gives the position of first occurrence of ch in the given val	
Trim(val)	To remove extra spaces from left or right side of the value then use trim function	
rtrim(val)	To remove extra spaces from right side of the value then use trim function	
Ltrim(val)	To remove extra spaces from left side of the value then use trim function	
Format(number,d)	This will display numbers with thousand separator, d number of digits after decimal point	

To generate email for all employees and email is first 3 characters of ename followed by . followed by first 3 characters of job followed by @mycompany.com

Substr(ename,1,3)

Substr(job,1,3)

Concat(Substr(ename,1,3),".", Substr(job,1,3),"@mycompany.com")


```
select empno,ename,job,Concat(Substr(ename,1,3),".", Substr(job,1,3),"@mycompany.com") email
    -> from emp;
```

Date related functions