Self join - joining the same table to itself

select r. referral_id, r. username, r. referred_id, s.username as referred_name from referral_system as r join referral_system as s on r. referred_id = s.referral_id;

SUB QUERY - query within another query, we use this when we have table dependency, in this the inner query executes first

-- this will be written in where on having clause

-- the below query is written based on the two tables bank_info and transaction_info but the output we get is the column from bank_info basing on the transaction info

select * from bank_info where account_id in(

select distinct(account_id) from transactioninfo);

- ■ The below query is to fetch the second highest salary of a employee using sub query method

select max(salary) from emppinfo where salary < (select Max(salary) from emppinfo);

Derived tables -- it is used to find the N th highest value in a table, this will be written in from clause

In the below query alias name is mandatory of derived table.

select min(salary) from (select distinct(salary) from emppinfo order by salary desc limit 7) as top7thsalary;

Views

View is used to store the select query which we use frequently. It will not store the data but only store the query

create view accountdetails as (

select * from bank_info where account_id in(

select distinct(account_id) from transactioninfo)

);

select * from accountdetails

We can directly give the view name instead of completely writing the query every time.

We can update the views and this will update the values In the base table as well. The views will get update when the structure of the views is matching with the structure of the base table these are called as updatable views.

update accountdetails set currentbalance = 2000 where account_id = 1;

If the structure of base table is not matching with the structure of views then we cannot update the table this is called un updatable views Ex: if we create a view with joins then the structure will not match then we cannot update the table

Index - it is used to modify the search criteria and optimize the performance

There are different types of index based on different things

1. **Btree index, Hash index, R tree index- these are based on search criteria**
2. **Unique index, full text index, spatial index – these are based on column data type**
3. **Clustered, non clustered – based on the column**