SQL

I, Overview

* Structured query language, language for storing, manipulating and retrieving data stored in a relational database.
* All the Relational Database Management Systems (RDMS): MySQL, MS Access, Oracle, Sybase, SQL server
* Types :
  + DDL(Data Definition Language) :
    - Create : Creates a new table, a view of a table, or other object in the database.
    - Alter : Modifies an existing database object, such as a table.
    - Drop : Deletes an entire table, a view of a table or other objects in the database.
  + DML - Data Manipulation Language
    - Select : Retrieves certain records from one or more tables.
    - Insert : Creates a record.
    - Update : Modifies records.
    - Delete : Deletes records.
  + DCL - Data Control Language
    - Grant : Gives a privilege to user.
    - Revoke : Takes back privileges granted from user.

II, Thành phần chính

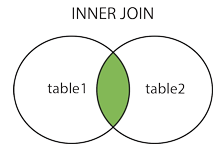
* Datasource
* Table,Column
* FK,PK

III,Các câu lệnh cơ bản

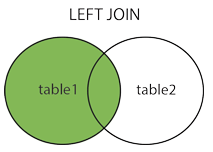
* SELECT : INSERT INTO table\_name (column1, column2, column3, ...)  
  VALUES (value1, value2, value3, ...);
* INSERT : *INSERT INTO*  table\_name (column1, column2, column3, ...)

*VALUES* (value1, value2, value3, ...)

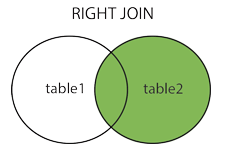
* UPDATE : UPDATE table\_name  
  SET column1 = value1, column2 = value2, ...  
  WHERE condition;
* DELETE : DELETE FROM table\_name WHERE condition;
* WHERE : SELECT column1, column2, ...  
  FROM table\_name  
  WHERE condition;
* JOIN :
  + INNER JOIN : SELECT column\_name(s)  
    FROM table1  
    INNER JOIN table2ON table1.column\_name = table2.column\_name;



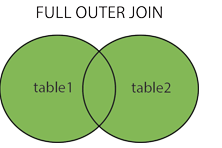
* + LEFT JOIN : SELECT column\_name(s)  
    FROM table1  
    LEFT JOIN table2ON table1.column\_name = table2.column\_name;



* + RIGHT JOIN: SELECT column\_name(s)  
    FROM table1  
    RIGHT JOIN table2ON table1.column\_name = table2.column\_name;



* + FULL JOIN : SELECT column\_name(s)  
    FROM table1  
    FULL OUTER JOIN table2ON table1.column\_name = table2.column\_nameWHERE condition;



* GROUP BY : SELECT column\_name(s)  
  FROM table\_name  
  WHERE condition  
  GROUP BY column\_name(s)ORDER BY column\_name(s);
* HAVING : SELECT column\_name(s)  
  FROM table\_name  
  WHERE condition  
  GROUP BY column\_name(s)HAVING conditionORDER BY column\_name(s);
* ORDER BY: SELECT column1, column2, ...  
  FROM table\_name  
  ORDER BY column1, column2, ... ASC|DESC;

III, Điều kiện và toán tử

* AND : SELECT column1, column2, ...  
  FROM table\_name  
  WHERE condition1 AND condition2 AND condition3 ...;
* OR : SELECT column1, column2, ...  
  FROM table\_name  
  WHERE condition1 OR condition2 OR condition3 ...;
* NOT : SELECT column1, column2, ...  
  FROM table\_name  
  WHERE NOT condition;
* IN: SELECT column\_name(s)  
  FROM table\_name  
  WHERE column\_name IN (value1, value2, ...);
* BETWEEN : SELECT column\_name(s)  
  FROM table\_name  
  WHERE column\_name IN (value1, value2, ...);
* LIKE : SELECT column1, column2, ...  
  FROM table\_name  
  WHERE columnN LIKE pattern;

V, Nâng cao

1. View :

* Declare : CREATE VIEW name\_view AS

SELECT…..

* Run : select \* from name\_view
* Src : Views/dbo.name\_view

2, Stored procedure

* Declare : CREATE PROCEDURE name\_procedure AS

BEGIN SELECT… END

* Run : EXECUTE name\_procedure / EXEC name\_procedure
* Src : Programmability/Stored Procedures

3, Statement : find table name

* Chúng ta chỉ cần nhớ một số “key” chính của bảng dữ liệu mình cần tìm, sau đó các bạn có thể dùng câu lệnh SQL như bên dưới để tìm ra table mà bạn cần.
* Giả sử, bạn cần tìm bảng dữ liệu có chứa dữ liệu về Huy động vốn – cụ thể là các tài khoản Tiền Gửi Tiết Kiệm – lưu trữ dưới dạng sao kê.
* use HOCSQL; — Trong đó, HOCSQL là tên Database

select \* from information\_schema.tables

where table\_name like ‘%TGTK%’

4, Function

* Table-valued function
* Scalar function(hàm vô hướng) : a

5,Trigger:

* DML trigger : are automatically fired when an INSERT, UPDATE or DELETE event occurs on a table.
* DDL trigger: are automatically invoked when a CREATE, ALTER, or DROP event occurs in a database. It is fired in response to a server scoped or database scoped event.
* Logon trigger : is invoked when a LOGON event is raised when a user session is established.