Agenda

- PL-SQL
- Triggers
- Python Connectivity

PSM/PL-SQL

- Persistant Stored Modules
- Procedural/ Programming Language of SQL
- MySQL program can be a
  - 1. stored procedure
  - 2. function
  - 3. trigger
- Default DELIMITER is semicolon.
- When ; is found, client submit the code/query to the server.
- It should be changed temporarily to implement stored procedure using DELIMITER keyword.

1.Stored Procedure

- Steps of Stored Procedure programming.
- 1. Create a .sql file (like psm01.sql).
- 2. Use SOURCE command on mysql CLI to execute it.
- 3. Call the procedure.
  - CALL sp_hello1();
- 4. To see all procedures use below query.
    SHOW PROCEDURE STATUS where db='classwork';

Triggers

- Trigger is MySQL program (PSM syntax). It's execution is triggered (caused) by some event -- DML operation on a table.

  - BEFORE INSERT
  - AFTER INSERT
  - BEFORE UPDATE
  - AFTER UPDATE
  - BEFORE DELETE
  - AFTER DELETE

- If multiple rows are INSERT/UPDATE/DELETE, then trigger will be executed once "for each row".

- The affected rows can be accessed using NEW and OLD keywords.

  - INSERT --> NEW row
  - DELETE --> OLD row
  - UPDATE --> NEW and OLD row

- It is never called explicitly by the user.

- It cannot have arguments or return value.

- It's output is not printed console.

- To display all the triggers
  SHOW TRIGGERS;