# Relational Database Operations in SQL - Part IV - Stored Procedures

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# Outline

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# Reminder: Project Meeting

*Before* final project demo, each group should schedule a meeting with me in this or the next week – more scheduling details will be on Blackboard.

Agenda and Objectives

▶ Discuss group and individual progress

▶ Identify gaps and improvements

▶ Prepare for the final and a successful project demo and presentation

▶ Any issues you may have regarding the class

# Selected Topics in SQL

Discussed

- ▶ Ordering the Output
- ▶ Eliminating Duplicates
- ▶ Aggregate Processsing
- ▶ Grouping
- ▶ Subquery
- ▶ Datatbase Views

Now discuss

- ▶ Procedural SQL (a brief introduction)

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# Introduction to Persistent Stored Modules

Motivation: to isolate critical code to access databases and to handle database errors, SQL supports a procedure language.

▶ Persistent storage module (PSM). A block of code containing standard SQL statements and procedural extensions that is stored and executed at the DBMS server.

# PSM Language Features

- ▶ Creating PSM functions and procedures
- ▶ Invoking PSM functions and procedures
- ▶ Branching statements
- ▶ Queries in PSM
- ▶ Loops in PSM
- ▶ Exceptions in PSM

# PSM Example: Defining a Procedure

```
delimiter //

CREATE PROCEDURE Move(
  IN oldAddr VARCHAR(255),
  IN newAddr VARCHAR(255)
)
BEGIN
  UPDATE Students
  SET address=newAddr
  WHERE address=oldAddr;
END//

delimiter ;
```

# PSM Example: Invoking the Procedure

```
Call Move(
  '1 BC Street, Brooklyn, NY',
  '2900 Bedford Ave, Brooklyn, NY'
);
```

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# Questions and Summary

▶ A brief introduction to PSM