



# UNIVERSITY OF MORATUWA

Faculty of Information Technology

B.Sc. (Hons) ITM

Level 2 Semester 2

IN2410 – Database Systems

## Practical 4 – Stored Procedures

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A stored procedure is a piece of prepared SQL code that may be saved and utilized repeatedly. Therefore, if you have a frequently used SQL query/queries, save it as a stored procedure and then call it to perform it. Additionally, you can pass parameters to a stored procedure, allowing the stored procedure to operate on the parameter value(s) passed. The parameters might be either input or output. You can use input parameters to pass values to the procedure and output parameters to pass results out.

It's important to note that a stored procedure may return an integer value as well.

Example:

```
CREATE PROCEDURE getQuantity @pno VARCHAR(6), @qty INT OUT
AS
BEGIN
    SELECT @qty=qty_available
    FROM product p
    WHERE productNo=@pno
END

-- execution of stored procedure. Note this is a comment line
DECLARE @Quantity_Available INT
EXEC getQuantity 'p0001', @Quantity_Available OUT
PRINT @Quantity_Available
```

Diagram annotations:

- Procedure name: `getQuantity`
- An input parameter: `@pno VARCHAR(6)`
- An output parameter: `@qty INT OUT`
- Indicate the beginning line of the procedure. This is optional: `BEGIN`
- Indicate the ending line of the procedure. This is optional: `END`

## Stored Procedures

Use the following relational schema and answer the questions mentioned below.



1. Write a stored procedure to display information for a given product number.
2. Write a stored procedure to retrieve the Re\_Order\_Level for a given product number.  
Note: return the Re\_Order\_Level.
3. Write a stored procedure to retrieve the Description and Qty\_Available for a given product number.  
Note: retrieve the Description and Qty\_Available as output parameters.
4. Write a stored procedure to update the Selling\_Price for a given ProductNo.  
Note: Selling\_Price should be higher than the Item\_Cost, otherwise display an error message called "Selling price should be greater than the item cost. Record update terminated".
5. Write a stored procedure to insert a record to the Sales\_Order table.
6. Write a stored procedure to insert a record to the Sales\_Order and Sales\_Order\_Details tables.  
Hint: The user will send the relevant data as input parameters as follows, Sales\_Order\_No, Sales\_Order\_Date, Order\_Taken\_By, ClientNo, Delivery\_Address, Product\_No, and Quantity.
7. Write a stored procedure to insert a record to the Client, Sales\_Order, and Sales\_Order\_Details tables.  
Hint: The user will send the relevant data as input parameters as follows, ClientNo, Name, City, Date\_Joined, Balance\_Due, Sales\_Order\_No, Sales\_Order\_Date, Order\_Taken\_By, Delivery\_Address, Product\_No and Quantity.  
Note: If client details already exists, insert details only to the Sales\_Order and Sales\_Order\_Details tables.