



Practical 4 – INSERT, UPDATE, DELETE

Objectives of this practical

- To manipulate records of a database via insert, update and delete operations.

Contents

Background.....	3
Section A: Populate Course Table.....	3
Section B: Populate Department Table.....	5
Section C: Populate a table	6
Section D: Backup a table	6
Section E: Update records	6
Section F: Delete & Restore records	7

Background

Sometimes new Information emerges and very often the corresponding data in the database must be changed. As part your day-to-day operations, it is common to create, update and even remove data to maintain the information and keep it current.


Section A: Populate Course Table

To build up the database gradually, you will populate the database tables with some initial data. In the last practical, the course relation had been defined as shown below.

	Course	Primary Key(crse_code)	
	Attribute	Data Type	Permissible for NULL
1	crse_code	VARCHAR(5)	NOT NULL
2	crse_name	VARCHAR(100)	NOT NULL
3	offered_by	VARCHAR(5)	NOT NULL
4	crse_fee	DECIMAL(7,2)	NOT NULL
5	lab_fee	DECIMAL(7,2)	NULL

1. Below is the course brochure for School of Business, SB. The classes do not utilize labs so there is no charge for lab fee.

Populate the course table with the given information.



Courses

Course: **Diploma in Business Administration**
Code: **DBA**
Course Fee: **500.00**

Course: **Diploma in Financial Informatics**
Code: **DFI**
Course Fee: **800.00**

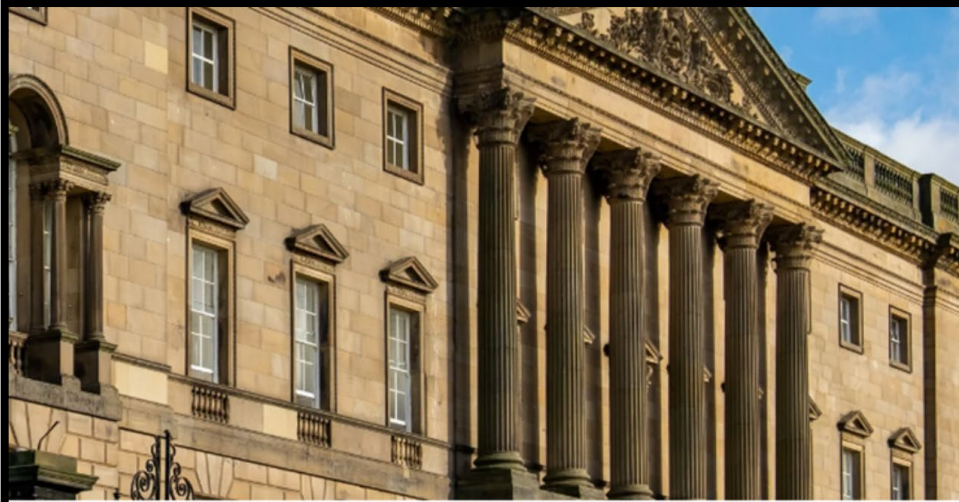
Department Code: **SB**

School of Business

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2. The School of Computing, SOC, offers the 4 courses shown below. The classes require the use of lab equipment so there is an associated lab fee.

Populate the course table with the given information.



Courses

Course: **Diploma in Business and Information Technology**
 Code: **DBIT**
 Course Fee: **700.00**
 Lab Fee: **100.00**

Course: **Diploma in Applied AI and Analytics**
 Code: **DAAA**
 Course Fee: **1000.00**
 Lab Fee: **900.00**

Course: **Diploma in Cybersecurity**
 Code: **DCS**
 Course Fee: **900.00**
 Lab Fee: **300.00**

Course: **Diploma in Information Technology**
 Code: **DIT**
 Course Fee: **650.00**
 Lab Fee: **450.00**

Department Code: **SOC**

**School of
Computing**

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Section B: Populate Department Table

In the last practical, the department relation had been defined as shown below.

	department	Primary Key(dept_cd)	
	Attribute	Data Type	Permissible for NULL
1	dept_cd	VARCHAR(5)	NOT NULL
2	dept_name	VARCHAR(100)	NOT NULL
3	hod	CHAR(4)	NOT NULL
4	no_of_staff	INTEGER	NULL
5	max_staff_strength	INTEGER	NULL
6	budget	DECIMAL(9,2)	NULL
7	expenditure	DECIMAL(9,2)	NULL
8	hod_appt_date	DATE	NULL

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Database Systems

Populate the Department table with the given information. [Do not specify the column list in your insert statements.]

Code	Department	HOD Staff Number	Number of Staff	Max Number of Staff	Budget	Expenditure	HOD Appointment Date
SOC	School of Computing	S001	82	92	90,000.00	\$45,000.00	2009-04-01
DPO	Deputy Principal's Office	T002	3	3	6,000.00	NULL	NULL
PO	Principal's Office	T001	4	4	7,500.00	NULL	2008-01-01
SB	School of Business	S006	86	90	80,000.00	\$88,000.00	1996-10-01

Section C: Populate a table

Instruction: Download the [staff.sql](#) from the LMS.
Insert all the rows for the staff table by executing the staff.sql file.

Section D: Backup a table

A series of events has been anticipated in the coming month, with various changes to the staff data expected. To mitigate against incorrectly updated data, it is prudent to create a backup. The original data could be restored from it if needed.

Using SQL, create a backup of the staff records to a new table, named staff_backup.

[HINT: Consider creating a table of the same schema, then use INSERT INTO statement.]

Section E: Update records

The series of events are listed below under Sections E & F.
For each scenario, update the table to reflect the changes.

1. A salary review was conducted. The school has decided to take up the recommendation from the findings.

Update the data based on the recommendation.



2. A new benefits scheme was introduced.

Update the data based on the structure of the new scheme.

NEWSLETTER

New Benefits Scheme

Under this scheme, all staff would be debited \$50 from their pay, but they would receive a permanent 10% increment to their allowance instead

3. A special initiative was launched to recognise the efforts of male full-time staff who had joined before the year of 1996. The decision was to acknowledge them with a permanent \$100 increment to their pay.

Update the data to reflect the above.

Section F: Delete & Restore records

1. The staff with staff number T001 left to pursue further education

Remove the corresponding staff record.

2. A few other records were removed by mistake.

Proceed to

- remove all staff records.
- then restore the staff records from the backup that you performed in section D. [Hint: INSERT INTO]