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Database System Lab (CSE 3103)

Session 01

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Course Outline Fall 2018,CSE, AUST

- Course Name : Database System Lab
- Course Number : **CSE 3104**
- Credit Hour : **1.5 Credit hours per week**
- Year & Semester : **3rd Year & 1st Semester**

Course Outline FALL 2018,CSE, AUST

- **Text Books:**

- SQL The Complete Reference, by James R. Groff, Paul N. Weinberg.
- Head First SQL, by Lynn Beighley.

- **Instructions:**

- Attendance will be based on Presence on Class, Punctuality & Attention on Class.
- There will be 5/6 online, 1/2 offline , 1 project(presentation and viva) , 1 mid exam and 1 final exam (written).

- **Assessment Criteria:**

• Attendance and Class Performance	20
• Assignment (offline/Online)	40
• Lab Quiz (Mid/Final/ Project Work)	40

• Total	100

Course Faculty Outline

Course Teacher :

- **Nazmus Sakib** , Assistant Professor
 - **Shoeb Mohammad Shahriar**, Lecturer
 - **Nowshin Nawar Arony**, Lecturer
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 - Cell : +880 193 99 00 271 [Available from **8AM – 6PM**]

Things we will do TODAY

- Why database is needed ? Work of a database? Advance Features
- Installation Process of MS SQL Server Express Version
- Documentation Sharing of Materials [Books, Slides, Software]
- **CONNECT LAN AND GET DATA FROM IP: 172.16.1.125**
- How to use MS–SQL suite: A short brief.
- A Database and a Table Creation with Some Data Insertion in **design view**.
- How to import and export an database with data
- **A Small practice session [marks 05]**
- Project Group Selection and Project Distribution
- Next day work.

What is SQL?

- SQL stands for Structured Query Language
- SQL lets you access and manipulate databases
- SQL is an ANSI (American National Standards Institute) standard

What Can SQL do?

- SQL can execute queries against a database
- SQL can retrieve data from a database
- SQL can insert records in a database
- SQL can update records in a database
- SQL can delete records from a database
- SQL can create new databases
- SQL can create stored procedures in a database
- SQL can set permissions on tables, procedures, views

Keep in Mind That...

- SQL is not case sensitive
- Some database systems require a semicolon at the end of each SQL statement.
- Semicolon is the standard way to separate each SQL statement in database systems that allow more than one SQL statement to be executed in the same call to the server.

SQL DML and DDL

- The query and update commands form the DML part of SQL:
 - **SELECT** - extracts data from a database
 - **UPDATE** - updates data in a database
 - **DELETE** - deletes data from a database
 - **INSERT INTO** - inserts new data into a database

SQL DML and DDL

- The most important DDL statements in SQL are:
 - **CREATE DATABASE** - creates a new database
 - **ALTER DATABASE** - modifies a database
 - **CREATE TABLE** - creates a new table
 - **ALTER TABLE** - modifies a table
 - **DROP TABLE** - deletes a table
 - **CREATE INDEX** - creates an index (search key)
 - **DROP INDEX** - deletes an index

CREATE DATABASE

- The CREATE DATABASE statement is used to create a database.

```
CREATE DATABASE database_name
```

- CREATE DATABASE Example

```
CREATE DATABASE my_db
```

- Create a Database According to [Name_ID](#)

CREATE TABLE


- The CREATE TABLE statement is used to create a table in a database.

```
CREATE TABLE table_name  
(  
  column_name1 data_type,  
  column_name2 data_type,  
  column_name3 data_type,  
  ....  
);
```

SQL Server Data Types

Data type	Description
varchar(n)	Variable-length character string. Maximum 8,000 characters
int	Allows whole numbers between -2,147,483,648 and 2,147,483,647
float(n)	Floating precision number data from -1.79E + 308 to 1.79E + 308.
date	Store a date only. From January 1, 0001 to December 31, 9999
varbinary(n)	Variable-length binary data. Maximum 8,000 bytes
nvarchar(n)	Variable-length Unicode data. Maximum 4,000 characters
image	Variable-length binary data. Maximum 2GB
timestamp	Stores a unique number that gets updated every time a row gets created or modified. The timestamp value is based upon an internal clock and does not correspond to real time. Each table may have only one timestamp variable

PRACTICAL SESSION 01: MARKS [05]

SCHOOL			
	Column Name	Data Type	Allow Nulls
	SchoolId	int	<input type="checkbox"/>
	SchoolName	varchar(50)	<input type="checkbox"/>
	Description	varchar(1000)	<input checked="" type="checkbox"/>
	Address	varchar(50)	<input checked="" type="checkbox"/>
	Phone	varchar(50)	<input checked="" type="checkbox"/>
	PostCode	varchar(50)	<input checked="" type="checkbox"/>
	PostAddress	varchar(50)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

1. Create the following table using the designer tool.
2. Insert at least 5 records to the SCHOOL table using designer tool.

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