Module 2 - Lecture 6

Database Design

REVIEW

- How do we…
  - write data to our database?
  - modify data in our database?
  - remove data from our database?

- Transactions
  - What can we do with them?

- Constraints

Gallery Customer History Form

Customer Name

Jackson, Elizabeth   Phone (206) 284-6783
123 – 4th Avenue
Fonthill, ON
L3J 4S4

Purchases Made

Artist	Title	Purchase Date	Sales Price
03 - Carol Channing	Laugh with Teeth	09/17/2000	7000.00
15 - Dennis Frings	South toward Emerald Sea	05/11/2000	1800.00
03 - Carol Channing	At the Movies	02/14/2002	5550.00
15 - Dennis Frings	South toward Emerald Sea	07/15/2003	2200.00

The Gill Art Gallery wishes to maintain data on their customers, artists and paintings. They may have several paintings by each artist in the gallery at one time. Paintings may be bought and sold several times. In other words, the gallery may sell a painting, then buy it back at a later date and sell it to another customer.

Normalization

Normalization is the process of organizing a database to eliminate duplicate and null values.

There are different forms of normalization. We will focus on the first 3 forms, namely first normal form (1NF), second normal form (2NF), and third normal form (3NF).

Data Definition Language

```
CREATE TABLE table_1
(
    column1 <data_type> <constraint(s)>,
    column2 <data_type> <constraint(s)>,
);


ALTER TABLE table_1 ADD COLUMN new_column <data_type>;
ALTER TABLE table_1 ADD CONSTRAINT pk_constraint_name PRIMARY
KEY (column_name(s));


ALTER TABLE table_1 DROP COLUMN column_name;
ALTER TABLE table_1 DROP CONSTRAINT constraint_name;
DROP TABLE table_1;
```

QUESTIONS?