CONSTRAINTS

METIS

Constraints

What are constraints in SQL?

Rules introduced to govern data allowed in each column.
Generally introduced when creating table, but can be imposed later.

Why use constraints?

Data integrity and quality

Which constraints are common to SQL?

- NULL or NOT NULL
- PRIMARY KEY
- FOREIGN KEY

- CHECK
- DEFAULT
- UNIQUE

Constraints List

Uniquely identify rows.
No duplicates!
Also does not allow NULLs.

All values entered must pass the check constraint.

```
CREATE TABLE inventory2(

    id INT PRIMARY KEY,

    name VARCHAR(100) NOT NULL,

    vendor_id INT FOREIGN KEY REFERENCES
                    inv_vendors(id),

    quantity INT CHECK (quantity >= 0),

    upc_string VARCHAR(25) UNIQUE

);
```

Does not allow NULLs. Rows inserted must have value for name.

Value for vendor_id must appear in id column in inv_vendors table!

Values entered must be unique. Allows one NULL.

Constraints After Table Creation

Insist that every item in the inventory table has a name

```
ALTER TABLE inventory
    ALTER COLUMN name VARCHAR(100) NOT NULL;
```

Check to be sure negative values are not entered for quantities

```
ALTER TABLE inventory
    ADD CONSTRAINT CK_INVENTORY$QUANTITY
    CHECK (quantity >= 0);
```

Create name for constraint