

### Supplier-Parts-DB (Draw the ERD for the Database)

SNUM	SNAME	STATUS	CITY
S1	Smith	20	London
S2	Jones	10	Paris
S3	Blake	30	Paris
S4	Clark	20	London
S5	Adams	30	Athens

**Supplier table**

PNUM	PNAME	COLOUR	WEIGHT	CITY
P1	Nut	Red	12	London
P2	Bolt	Green	17	Paris
P3	Screw	Blue	17	Rome
P4	Screw	Red	14	London
P5	Cam	Blue	12	Paris
P6	Cog	Red	19	London

**Part table**

SNUM	PNUM	QTY
S1	P1	900
S2	P3	3100
S2	P5	100
S3	P3	200
S3	P4	500
S4	P6	600
S5	P1	100
S5	P2	300
S5	P3	200
S5	P4	800
S5	P5	1000
S5	P6	700

**Supply table**

Home Page

Title Page

◀▶

◀▶

Page 1 of 6

Go Back

Full Screen

Close

Quit

## Modifying a Relational Database

```
CREATE TABLE Supplier (  
    SNUM char(5),  
    SNAME varchar(20) NOT Null unique,  
    STATUS number(2) default 0  
        check(STATUS ≥ 0),  
    CITY varchar(15),  
    primary key(SNUM))
```

```
INSERT INTO Supplier values ('S6', 'Bloggs', 20, 'London')  
INSERT INTO Supplier (SNUM, SNAME) values ('S6', 'Bloggs')
```

[Home Page](#)[Title Page](#)[◀](#) [▶](#)[◀](#) [▶](#)[Page 3 of 6](#)[Go Back](#)[Full Screen](#)[Close](#)[Quit](#)

```
CREATE TABLE Light-Part (  
    PNUM char(5),  
    PNAME varchar(20) NOT Null  
    WEIGHT number(2) default 0,  
        check (WEIGHT IS Null OR WEIGHT <= 15),  
    CITY varchar(15) default 'London',  
    primary key(PNUM))
```

```
INSERT INTO Light-Part  
    SELECT *  
    FROM Part  
    WHERE PRICE <= 15 OR WEIGHT IS Null
```

[Home Page](#)

[Title Page](#)

[◀](#) [▶](#)

[◀](#) [▶](#)

Page 4 of 6

[Go Back](#)

[Full Screen](#)

[Close](#)

[Quit](#)

```
UPDATE Supplier
SET STATUS = 20,
    CITY = 'London'
WHERE SNAME = 'Blake'
```

```
UPDATE Part
SET WEIGHT = WEIGHT - 3
WHERE PNAME = 'Cog'
```

```
DELETE FROM Parts
WHERE WEIGHT IS Null
```

## Creating Views

A **view** is a *virtual relation* that is computed at run-time as the result of a relational query.

```
CREATE VIEW Sup-Qty as
SELECT s.SNUM, SNAME, CITY,
       sum(QTY) TOTAL
FROM Supplier s, Supply sp
WHERE s.SNUM = sp.SNUM
GROUP BY SNUM

SELECT SNAME, TOTAL
FROM Sup-Qty
WHERE CITY = 'London'

DROP VIEW Sup-Qty
```

## Transactions

A **transaction** is a sequence of one or more SQL queries that act as an *atomic* unit with respect to *recovery*.

**Example:** transferring a sum of money from one account to another.

**Example:** recording election results in a database.

### Commands:

- COMMIT makes all changes to the database permanent.
- ROLLBACK undoes all changes since the last COMMIT.

### Notes:

- When you exit an SQL session the changes are committed.
- CREATE, ALTER and DROP TABLE are automatically committed.