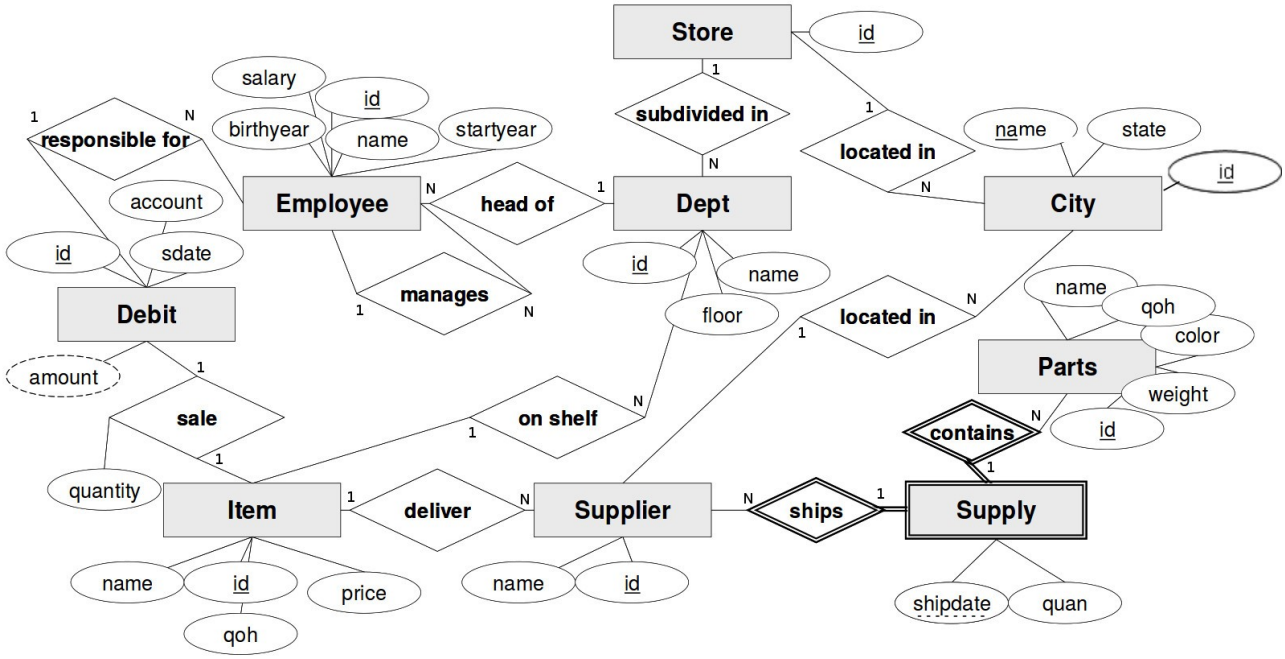
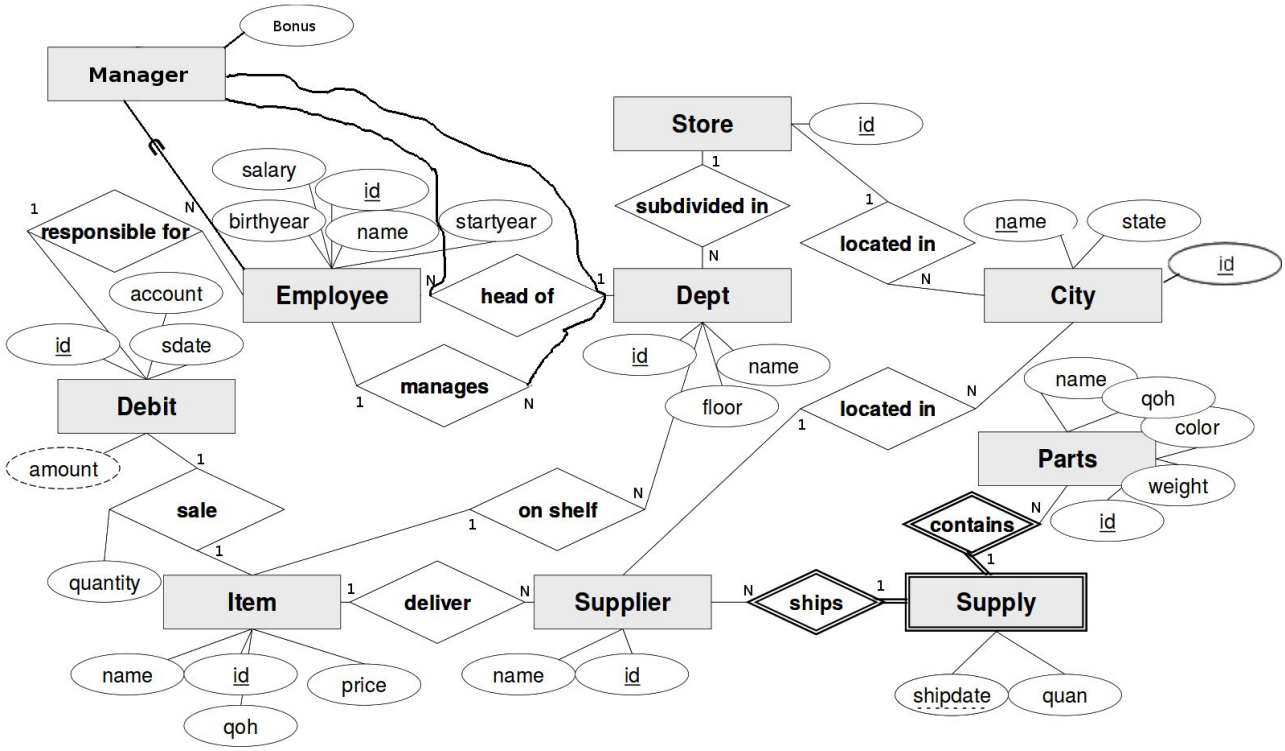
/* maxbr431, davsp799 */
/* QUESTION 1 */



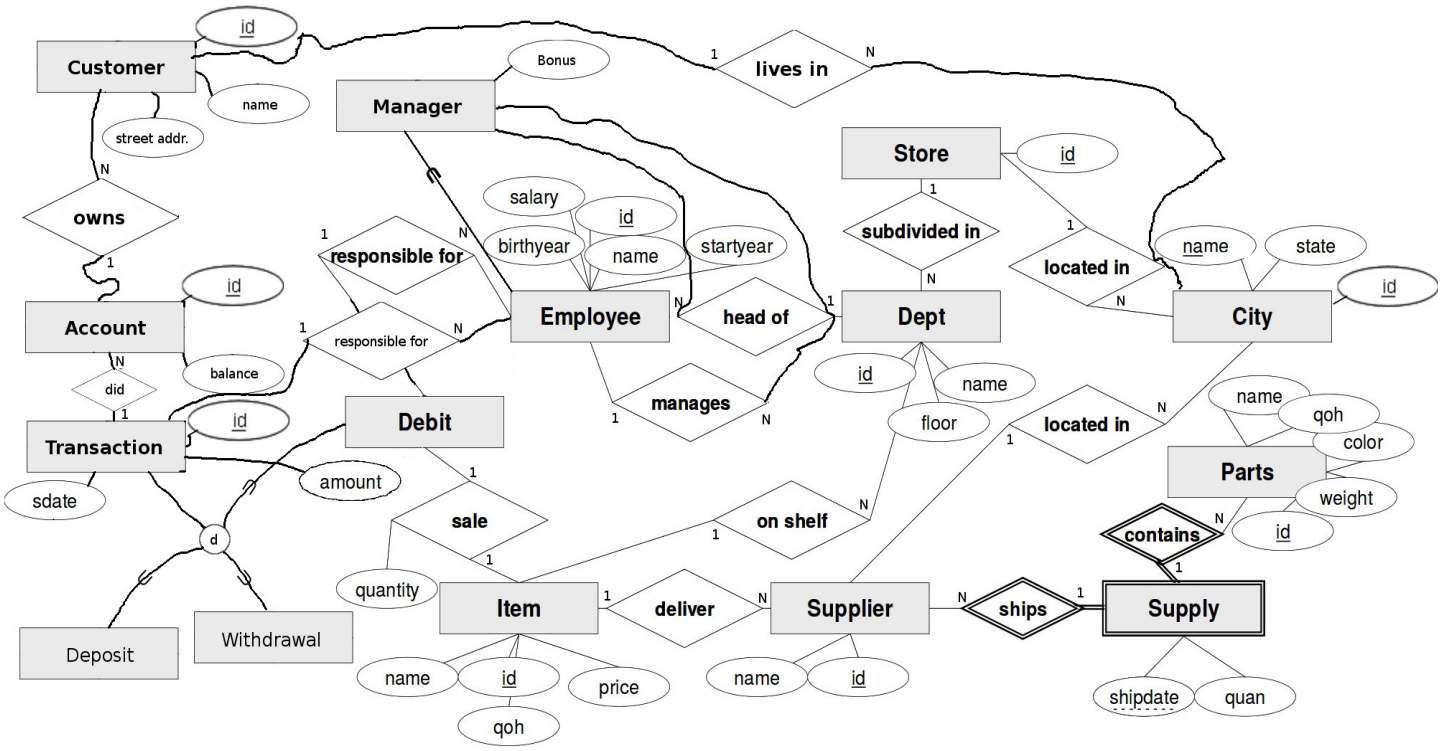
/* QUESTION 2 */



/* QUESTION 3 - Implement questions 1 & 2*/

```
CREATE TABLE jbmanagers
(
  id int PRIMARY KEY AUTO_INCREMENT,
  bonus int,
```

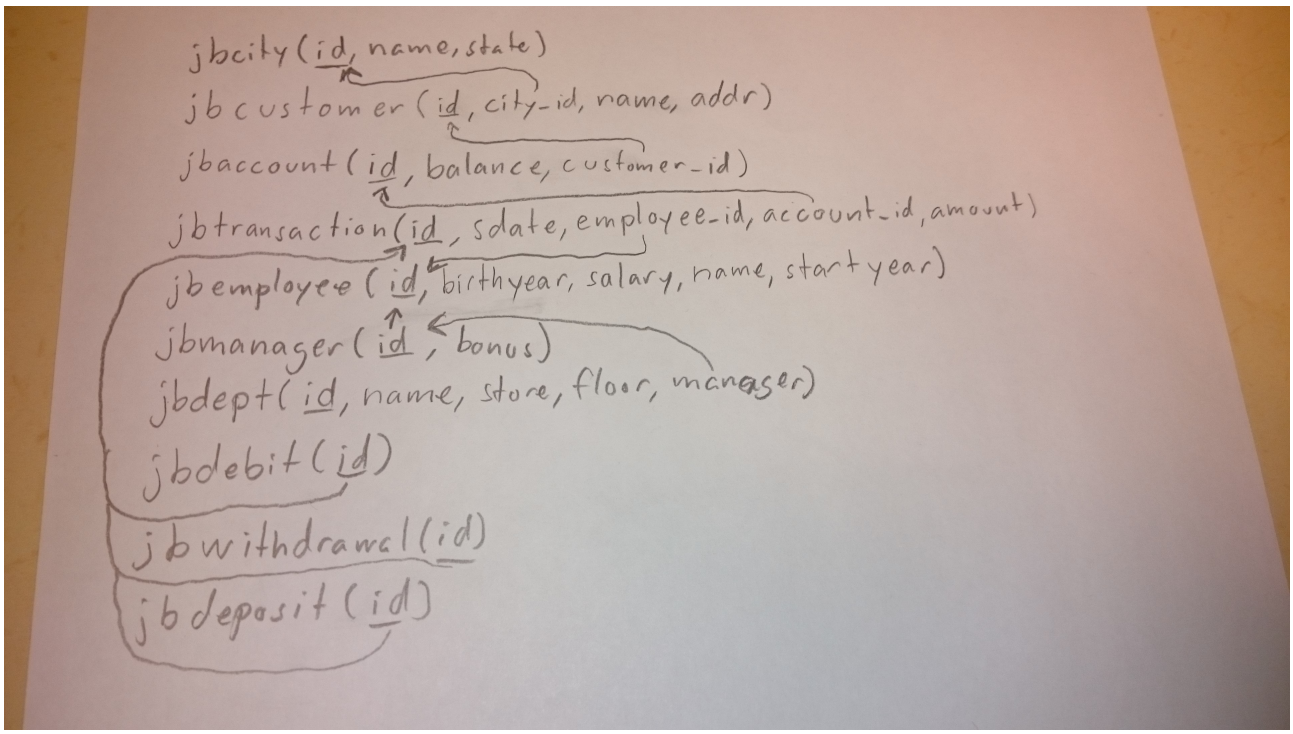
```
  FOREIGN KEY (id) REFERENCES jbemployee(id)
);

INSERT IGNORE INTO jbmanagers (id, bonus)
(
  SELECT e1.id, 0
  FROM jbemployee AS e1, jbemployee AS e2
  WHERE e1.id = e2.manager AND
      e1.id NOT IN (SELECT id
                FROM jbmanagers)
);

INSERT IGNORE INTO jbmanagers (id, bonus)
(
  SELECT d.manager, 0
  FROM jbdept AS d, jbemployee as e
  WHERE d.manager = e.id AND
      e.id NOT IN (SELECT id
                FROM jbmanagers)
);

ALTER TABLE jbdept
DROP FOREIGN KEY fk_dept_mgr;
ALTER TABLE jbdept
ADD FOREIGN KEY (manager) REFERENCES jbmanagers(id);

/*
 You do not have to set bonus (since it's not NOT NULL),
 but you should to ease further use
*/

/* QUESTION 4 - Give all department managers 10000 in bonus*/

UPDATE jbmanagers
  SET bonus=bonus + 10000
  WHERE jbmanagers.id IN (SELECT manager
                    FROM jbdept);

/* QUESTION 5a */
```



/* QUESTION 5 b - Implement 5a */

```
CREATE TABLE jbcustomer
(
  id int PRIMARY KEY AUTO_INCREMENT,
  city_id int,
  name varchar(40),
  addr varchar(40),
  FOREIGN KEY (city_id) REFERENCES jbcity(id)
);

CREATE TABLE jbaccount
(
  id int PRIMARY KEY AUTO_INCREMENT,
  balance int,
  customer_id int,
  FOREIGN KEY (customer_id) REFERENCES jbcustomer(id)
);

CREATE TABLE jbtransaction
(
  id int PRIMARY KEY AUTO_INCREMENT,
  sdate Date,
  employee_id int,
  account_id int,
  amount int,
  FOREIGN KEY (employee_id) REFERENCES jbemployee(id),
  FOREIGN KEY (account_id) REFERENCES jbaccount(id)
);

CREATE TABLE jbdeposit
(
```

```
  id int PRIMARY KEY,
  FOREIGN KEY (id) REFERENCES jbtransaction(id)
);

CREATE TABLE jbwithdrawal
(
  id int PRIMARY KEY,
  FOREIGN KEY (id) REFERENCES jbtransaction(id)
);

INSERT INTO jbcustomer (city_id)
(
  SELECT id FROM jbcity WHERE name = 'Hickville'
);

INSERT IGNORE INTO jbaccount (id, customer_id)
(
  SELECT deb.account, 1
  FROM jbdebit AS deb
);

INSERT IGNORE INTO jbtransaction (id, sdate, employee_id, account_id)
(
  SELECT id, sdate, employee, account FROM jbdebit
);

ALTER TABLE jbdebit
DROP COLUMN sdate;
ALTER TABLE jbdebit
DROP FOREIGN KEY fk_debit_employee;
ALTER TABLE jbdebit
DROP COLUMN employee;
ALTER TABLE jbdebit
DROP COLUMN account;

/* Relational Schema */
```


jbcity(id, name, state)
jbcustomer(id, city_id, name, addr)
jbaccount(id, balance, customer_id)
jbtransaction(id, sdate, employee_id, account_id, amount)
jbemployee(id, birthyear, salary, name, startyear)
jbmanager(id, bonus)
jbdept(id, name, store, floor, manager)
jbdebit(id)
jbwithdrawal(id)
jbdeposit(id)