

3)

```
mysql> CREATE TABLE jbmanager(id INT NOT NULL, bonus INT NOT NULL
DEFAULT '0');
```

Query OK, 0 rows affected (0.01 sec)

```
mysql> ALTER TABLE jbmanager ADD FOREIGN KEY (id) REFERENCES
jbemployee(id);
```

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE jbemployee DROP FOREIGN KEY fk_emp_mgr;
```

Query OK, 25 rows affected (0.10 sec)

Records: 25 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE jbemployee DROP FOREIGN KEY fk_emp_mgr;
```

Query OK, 25 rows affected (0.10 sec)

Records: 25 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE jbemployee DROP KEY fk_emp_mgr;
```

Query OK, 0 rows affected (0.54 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> INSERT INTO jbmanager (id) SELECT emp1.id FROM jbemployee
emp1, jbemployee emp2, jbdept WHERE emp1.id = emp2.manager OR
jbdept.manager = emp1.id group by id;
```

Query OK, 12 rows affected (0.04 sec)

Records: 12 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE jbdept DROP FOREIGN KEY fk_dept_mgr;
```

Query OK, 19 rows affected (0.03 sec)

Records: 19 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE jbdept DROP KEY fk_dept_mgr;
```

Query OK, 0 rows affected (0.16 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> ALTER TABLE jbdept ADD FOREIGN KEY(manager) REFERENCES
jbmanager(id) ON DELETE SET NULL;
```

Query OK, 19 rows affected (0.05 sec)

Records: 19 Duplicates: 0 Warnings: 0

WRITTEN ANSWER:

We initilized the bonus value to 0 to avoid it being NULL, so we can add and subtract from it.

4)

```
mysql> UPDATE jbmanager, jbdept SET bonus = bonus + 10000 WHERE
jbdept.manager = jbmanager.id ;
```

Query OK, 11 rows affected (0.01 sec)
Rows matched: 11 Changed: 11 Warnings: 0

mysql> SELECT * FROM jbmanager;

id	bonus
10	10000
13	10000
26	10000
32	10000
33	10000
35	10000
37	10000
55	10000
98	10000
129	10000
157	10000
199	0

12 rows in set (0.01 sec)

5)

mysql> CREATE TABLE jbcustomer(id INTEGER NOT NULL, name
VARCHAR(40) NOT NULL, address VARCHAR(40), city INTEGER(11) NOT
NULL, PRIMARY KEY(id), FOREIGN KEY(city) REFERENCES jbcity(id));
Query OK, 0 rows affected (8.25 sec)

mysql> CREATE TABLE jbaccount(id INTEGER NOT NULL, balance INTEGER
NOT NULL, owner INTEGER(11) NOT NULL, PRIMARY KEY(id), FOREIGN
KEY(owner) REFERENCES jbcustomer(id));
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE TABLE jbtransaction(id INT NOT NULL DEFAULT '0',
date timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP, type
VARCHAR(10) NOT NULL, employee INT NOT NULL, account INT NOT NULL,
amount INT NOT NULL, item INT, quantity INT, PRIMARY KEY(id),
FOREIGN KEY(account) REFERENCES jbaccount(id), FOREIGN
KEY(employee) REFERENCES jbemployee(id), FOREIGN KEY(item)
REFERENCES jbitem(item));
Query OK, 0 rows affected (0.02 sec)

