B3

a)

```sql
BEGIN;
ALTER TABLE licenses
ADD COLUMN software_version varchar(100);
UPDATE licenses
SET software_version =
        (SELECT VERSION
        FROM softwares
        WHERE name = software_name);
COMMIT;
```

b)

```sql
BEGIN;
ALTER TABLE licenses DROP CONSTRAINT licenses_software_name_fkey;
ALTER TABLE softwares DROP CONSTRAINT softwares_pkey;
ALTER TABLE softwares ADD PRIMARY KEY (name, version);
ALTER TABLE licenses ADD FOREIGN KEY (software_name, software_version)
REFERENCES softwares (name, version);
COMMIT;
```

c)

```sql
BEGIN;
ALTER TABLE licenses DROP CONSTRAINT licenses_pkey;
ALTER TABLE licenses ADD PRIMARY KEY (user_id, software_name, software_version);
COMMIT;
```

Then:

```sql
INSERT INTO licenses
        (user_id, software_name, software_version, access_code)
SELECT id,
            'Sketch',
            '52',
            'xxxyyy111'
FROM users
        where name = 'andrew';
```

d)

```sql
INSERT INTO licenses (user_id, software_name, software_version, access_code)
SELECT id,
       'Sketch',
       '52',
       '1monthfree'
FROM users
WHERE id NOT IN
       (SELECT user_id
       FROM licenses
       WHERE (software_name, software_version) = ('Sketch', '52')) ;
```