

Assignment 5

1. From the textbook, to 10.1.1. Only answer with the most strict privileges.

Textbook 10.1.1: Indicate what privileges are needed to execute the following queries. In each case, mention the most specific privileges as well as general privileges that are sufficient.

(a) The query of Fig. 6.5:

```
(SELECT name, address
  FROM MovieStar
 WHERE gender = 'F')
INTERSECT
(SELECT name, address
  FROM MovieExec
 WHERE netWorth > 10,000,000);
```

most strict privileges:

```
SELECT (name, address, gender) ON MovieStar
SELECT (name, address, netWorth) ON MovieExec
```

(b) The query of Fig. 6.7:

```
SELECT name
  FROM MovieExec
 WHERE cert# IN
    (SELECT producerC#
      FROM Movies
     WHERE (title, year) IN
        (SELECT movieTitle, movieYear
          FROM StarsIn
         WHERE starName = 'Harrison Ford'
        )
    );
```

most strict privileges:

```
SELECT (name, cert#) ON MovieExec
SELECT (title, year, producerC#) ON Movies
SELECT (movieTitle, movieYear, StarName) ON StarsIn
```

(c) The query of Fig. 6.15:

```
INSERT INTO Studio (name)
  SELECT DISTINCT studioName
    FROM Movies
   WHERE studioName NOT IN
     (SELECT name
```

FROM Studio);

most strict privileges:

```
INSERT (name) ON Studio
SELECT (studioName) ON Movies
SELECT (name) ON Studio
```

(d) The deletion of Example 6.37:

```
DELETE FROM StarsIn
  WHERE movieTitle = 'The Maltese Falcon'
  AND movieYear = 1942
  AND starName = 'Sydney Greenstreet';
```

most strict privileges:

```
DELETE ON StarsIn
SELECT (movieTitle, movieYear, StarName) ON StarsIn
```

(e) The update of Example 6.39:

```
UPDATE MovieExec
  SET name = 'Pres. ' || name
  WHERE cert# IN
    (SELECT presC#
     FROM Studio
    );
```

most strict privileges:

```
UPDATE (name) ON MovieExec
SELECT (cert#) ON MovieExec
SELECT (presC#) ON Studio
```

(f) The tuple based check of Fig. 7.3:

```
CREATE TABLE MovieStar(
  name CHAR(30) PRIMARY KEY,
  address CHAR(255),
  gender CHAR(1),
  birthdate DATE,
  CHECK (gender <> 'F' OR name NOT LIKE 'Ms.%')
);
```

most strict privileges:

```
REFERENCES (name, gender) ON MovieStar
```

SELECT (name, gender) ON MovieStar

(g) The assertion of Example 7.11:

```
CREATE ASSERTION RichPres CHECK (NOT EXISTS
    (SELECT studioName
      FROM Studio, MovieExec
      WHERE presC# = cert#
      AND netWorth < 10,000,000
    )
);
```

most strict privileges:

```
REFERENCES (name, presC#) ON Studio
SELECT (name, presC#) ON Studio
REFERENCES (cert#, netWorth) ON MovieExec
SELECT (cert#, netWorth) ON MovieExec
```

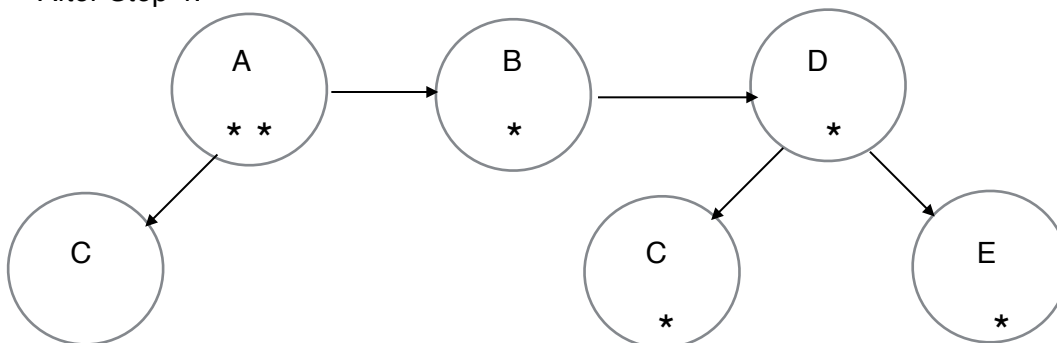
2. From the textbook, to 10.1.2. We know that we can't have cycles in a graph, therefore replace

4 D GRANT p TO B, C, E WITH GRANT OPTION
with

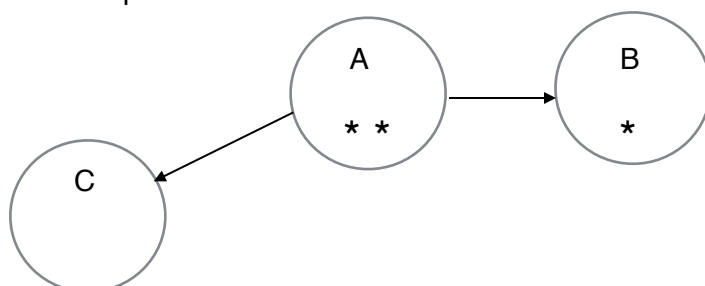
4 D GRANT p TO C, E WITH GRANT OPTION

Textbook 10.1.2.: Show grant diagrams after steps 4 through 6 of the sequence of actions listed. Assume A is owner of the relation.

After Step 4:



After Step 5:



After Step 6:

