CSCE-608 Database Systems

Spring 2024

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Assignment # 2
(Due March 18)

1. Using the database schema of movies given in the textbook (page 244)

```
Movies(title, year, length, genre, studioName, producerC#)
StarsIn(movieTitle, moveiYear, starName)
MovieStar(name, address, gender, birthdate)
MovieExec(name, address, cert#, netWorth)
Studio(name, address, proeC#),
```

write the following queries in SQL:

a) Who were the male stars in *Titanic*?
b) Which stars appeared in movies produced by MGM in 1995?
c) Who is the president of MGM studios?

2. Using the grammar for TinySQL given in Lecture 15 (i.e., the lecture of February 21), draw the parse tree for the following query about relations $R(a, b)$ and $S(b, c)$:

```
SELECT a, c FROM R, S WHERE R.b = S.b
```

3. Some laws that hold for sets hold for bags; others do not. For each of the laws below that are true for sets, tell whether or not it is true for bags. Either give a proof showing the law is true for bags, or give a counterexample to show that the law is false:

a) $R \cup R = R$;
b) $R \cap R = R$;
c) $R - R = \emptyset$;
d) $R \cup (S \cap T) = (R \cup S) \cap (R \cup T)$.