Problem 7.3E:

SELECT s1.SUPNAME,s2.SUPNAME,ss1.PURCHASE\_PRICE,ss2.PURCHASE\_PRICE FROM

supplier

s1 JOIN

supplies ss1

ON s1.SUPNR = ss1.SUPNR JOIN

supplies ss2

ON ss1.PRODNR = ss2.PRODNR JOIN supplier s2

ON ss2.SUPNR = s2.SUPNR

WHERE S1.SUPNR != S2.SUPNR and S1.SUPNAME < S2.SUPNAME

Problem 7.7E.

SELECT SUPCITY

FROM supplier s1

WHERE 1 < (SELECT COUNT(\*)

FROM supplier s2

WHERE s1.SUPCITY = s2.SUPCITY)

Problem 7.9E.

SELECT SUPNAME, SUPNR

FROM supplier s1

WHERE NOT EXISTS

(SELECT \*

FROM

PURCHASE\_ORDER p

WHERE s1.SUPNR = p.SUPNR)

Problem 7.16E.

SELECT p1.PRODNR

FROM PRODUCT p1

WHERE 3 >

(SELECT COUNT(\*)

FROM PRODUCT p2

WHERE p1.PRODNR > p2.PRODNR)

Problem 7.18E

SELECT SUPNAME,SUPNR

FROM SUPPLIER s

WHERE EXISTS

(SELECT \*

FROM SUPPLIES s1

WHERE s.SUPNR = s1.SUPNR

ORDERBY s1.SUPNR DESC)

LIMIT

Problem 2.1:

a.

SELECT title

FROM

Course

WHERE dept\_name= ”Computer Science” AND credits=3

b.

SELECT DISTINCT(s.ID)

FROM

Student s

JOIN

Instructor i

ON s.dept\_name = i.dept\_name

WHERE i.name=”Einstein”

c.

SELECT MAX(salary)

FROM

Instructor

d.

SELECT name

FROM

Instructor

WHERE salary = (SELECT MAX(salary)

FROM

Instructor)

e.

SELECT COUNT(ID)

FROM

takes

WHERE semester=”Autumn” and year=2009

GROUPBY year, semester

f.

SELECT MAX(COUNT(ID))

FROM

takes

WHERE semester=”Autumn” and year=2009

GROUPBY year, semester

g.

SELECTsec\_id, max(COUNT(ID))

FROMtakes  
WHEREsemester = 'Autumn' ANDyear = 2009

GROUP BYyear, semester

Problem 2.2:

a.

SELECT SUM(c.credits \* CASE

WHEN t.grade = 'A'

THEN 4

WHEN t.grade = 'A-'

THEN 3.7

WHEN t.grade = 'B+'

THEN 3.3

WHEN t.grade = 'B'

THEN 3

ELSE 1

END) AS "total grade-points"

FROM

takes t JOIN course c

ON t.course\_ID = c.course\_ID

WHERE t.ID= 12345;

b.

SELECT SUM(c.credits \* CASE

WHEN t.grade = 'A'

THEN 4

WHEN t.grade = 'A-'

THEN 3.7

WHEN t.grade = 'B+'

THEN 3.3

WHEN t.grade = 'B'

THEN 3

ELSE 1

END)/sum(c.credits) AS "grade-point average"

FROM

takes t JOIN course c

ON t.course\_ID = c.course\_ID

WHERE t.ID= 12345;

c.

SELECT SUM(c.credits \* CASE

WHEN t.grade = 'A'

THEN 4

WHEN t.grade = 'A-'

THEN 3.7

WHEN t.grade = 'B+'

THEN 3.3

WHEN t.grade = 'B'

THEN 3

ELSE 1

END)/sum(c.credits) AS "grade-point average"

FROM

takes t JOIN course c

ON t.course\_ID = c.course\_ID

Problem 2.3:

a.

UPDATE instructor

SET salary = (salary\*1.1)

WHERE dept\_name = 'Comp. Sci.';

b.

DELETE FROM course  
WHERE course\_id NOT IN (SELECT course\_id FROM section);

c.

INSERT INTO instructor (ID, name, dept\_name, salary)

SELECT ID, name, dept\_name, 10000

FROM student

WHERE tot\_cred > 100;

Problem 3.

3 a)

SELECT ID, CASE

WHEN m.score < 40

THEN 'F'

WHEN m.score BETWEEN 40 and 60

THEN 'C'

WHEN m.score BETWEEN 60 AND 80

THEN 'B’

ELSE 'A'

END as grade

FROM marks AS m;

3 b)

SELECT ID, CASE

WHEN m.score < 40

THEN 'F'

WHEN m.score BETWEEN 40 and 60

THEN 'C'

WHEN m.score BETWEEN 60 AND 80

THEN 'B’

ELSE 'A'  
END AS grade, COUNT(\*) AS grade\_count

FROM marks AS m  
GROUPBY grade;

Problem 4

4A)

SELECT COUNT(\*)

FROM

person, car, participated, accident

WHERE person.driver\_id = participated.driver\_id AND participated.report\_number = accident.report\_number AND accident.date = ‘%1989’

4B)

INSERT INTO accident values(2020, ’07-05-2022’, ‘NEW YORK’)

4C)

DELETE

FROM Car c

WHERE c.license = (SELECT license

FROM owns AS o JOIN person AS p  
ON o.driver\_id = p.driver\_id AND p.name = 'John Smith' AND c.license=’MAZDA’

Problem 5

5A)

SELECT customer\_name

FROM depositor

EXCEPT

(SELECT customer\_name

FROM borrower);

5B)

SELECT customer\_name

FROM customer

WHERE customer\_city =(SELECT customer\_city

FROM customer

WHERE customer\_name= ‘Smith’)

AND customer\_street = (SELECT customer\_street

FROM customer

WHERE customer\_name= ‘Smith’)

5C)

SELECT DISTINCT branch\_name  
FROM account JOIN customer WHERE customer\_city = 'Harrison';

6.

6.1

a.

SELECT e.employee\_name, city

FROM employee e, works w

WHERE w.company\_name = ‘First Bank Corporation’ and

w.employee\_name = e.employee\_name

b.)

SELECT \*

FROM employee

WHERE employee\_name in (SELECT employee\_name

FROM works

WHERE company\_name = ‘First Bank Corporation’

and salary > 10000)

c.)

SELECT employee\_name

FROM works

WHERE company\_name <> ‘First Bank Corporation’

d.)

SELECT employee\_name

FROM works

WHERE salary > all (SELECT salary

FROM works

WHERE company\_name = ‘Small Bank Corporation’)

e.)

SELECT T.company\_name

FROM company T

WHERE (SELECT R.city

FROM company R

WHERE R.company\_name = T.company\_name)

contains (SELECT S.city

FROM company S

WHERE S.company\_name = ‘Small Bank Corporation’)

f.)

SELECT company\_name

FROM works

GROUP BY company\_name having count (distinct employee\_name) >= all (SELECT count (distinct employee\_name) FROM works GROUP BY company\_name)

g.)

SELECT company\_name

FROM works

GROUP BY company\_name having avg (salary) >

(SELECT avg (salary) FROM works WHERE company\_name = ‘First Bank Corporation’)

6.2

a.)

UPDATE employee set city = ’Newton’

WHERE person\_name = ‘Jones’

b.)

UPDATE works T set T.salary = T.salary \* 1.03

WHERE T.employee\_name in (SELECT manager\_name FROM manages) and T.salary \* 1.1 > 100000 and T.company\_name = ‘First Bank Corporation’;

UPDATE works T set T.salary = T.salary \* 1.1

WHERE T.employee\_name in (SELECT manager\_name FROM manages) and T.salary \* 1.1 <= 100000 and T.company\_name = ‘First Bank Corporation’;