CIS 2109 Lab 6

10/14/2018

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**Part 1:**

1. Is this relation in 1NF? If not create the 1NF. If yes, explain why.

Yes, the relation is in 1NF because it has unique rows and no multiple value attributes.

1. Write down the functional dependencies:

Store\_name -> Store\_Mgr, Revenue, Opening\_Date

Emp\_Id -> Emp\_salary, Emp\_super, Emp\_dept

Store\_Name, Emp\_Id -> Hours\_per\_week, Rating

1. Use the functional dependencies to explain what the candidate key is:

Candidate Key: Store\_Name, Emp\_Id

1. Transform to 2NF:

STORES (Store\_Name, Store\_Mgr, Revenue, Opening\_Date)

EMPLOYYE (Emp\_Id, Emp\_salary, Emp\_super, Emp\_dept)

STORE\_EMPLOYEES\_HRS\_Rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating)

1. Transform to 3NF:

STORES (Store\_Name, Store\_Mgr, Opening\_Date)

EMPLOYYE (Emp\_Id, Emp\_salary, Emp\_dept)

DEPT\_SUPER (Emp\_dept, Emp\_super)

STORE\_EMPLOYEES\_HRS\_Rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating)

**Part 2:**

CREATE TABLE DEPT\_SUPER

(Emp\_Dept NUMBER(2,0),

Emp\_super VARCHAR(10),

CONSTRAINT Dept\_PK PRIMARY KEY (Emp\_Dept));

CREATE TABLE EMPLOYEE

(Emp\_Id VARCHAR(6) NOT NULL,

Emp\_salary NUMBER(8,0) NOT NULL,

Emp\_Dept NUMBER(4,0),

CONSTRAINT Emp\_PK PRIMARY KEY (Emp\_Id),

CONSTRAINT Dept\_FK FOREIGN KEY (Emp\_Dept) REFERENCES DEPT\_SUPER(Emp\_Dept));

CREATE TABLE STORES

(Store\_Name VARCHAR(10) NOT NULL,

Store\_Mgr VARCHAR(25),

Opening\_Date DATE,

Revenue NUMBER(15),

CONSTRAINT Store\_PK PRIMARY KEY (Store\_Name));

CREATE TABLE STORE\_EMPLOYEES\_HRS\_Rating

(Store\_Name VARCHAR(10) NOT NULL,

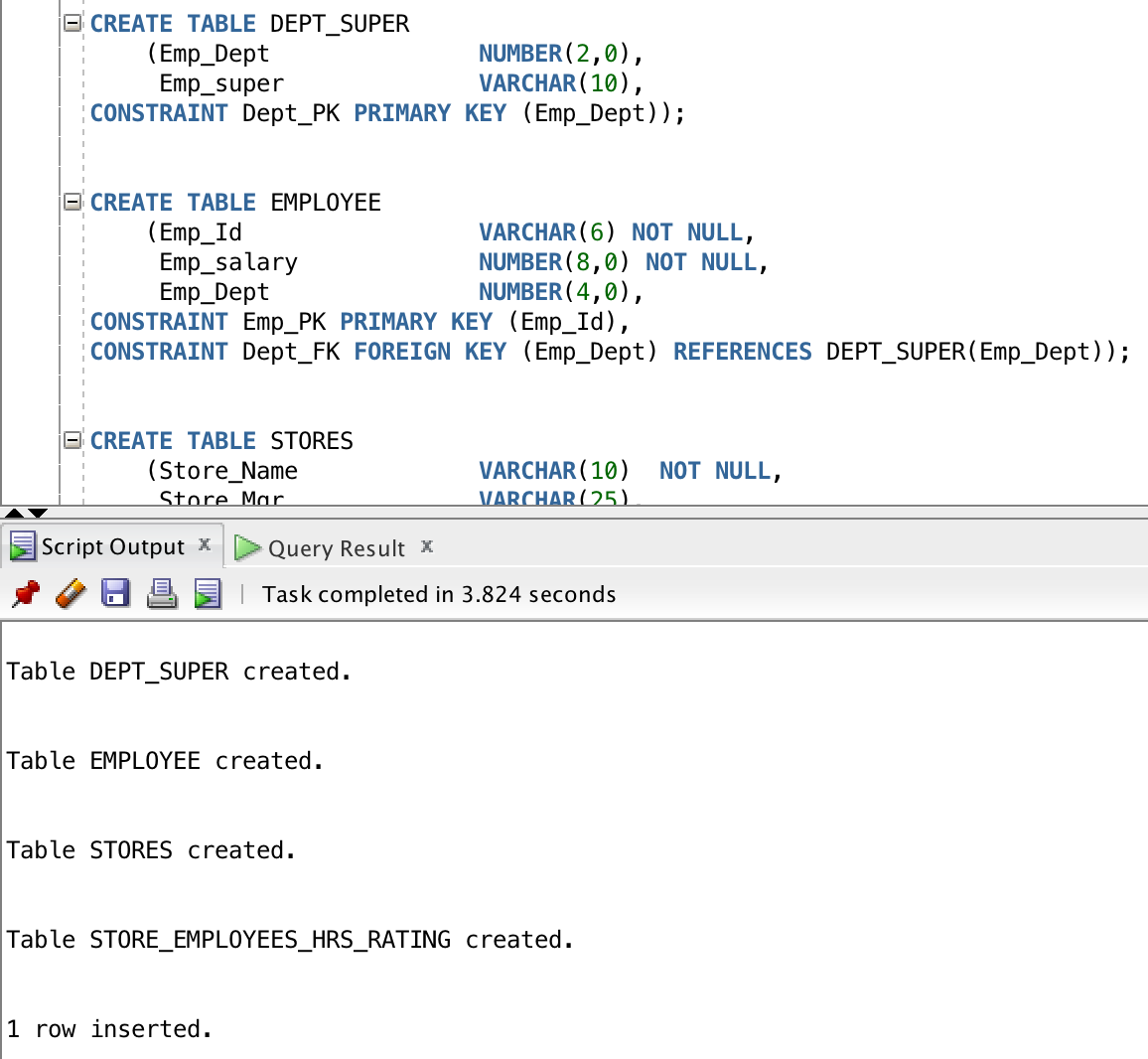
Emp\_Id VARCHAR(6) NOT NULL,

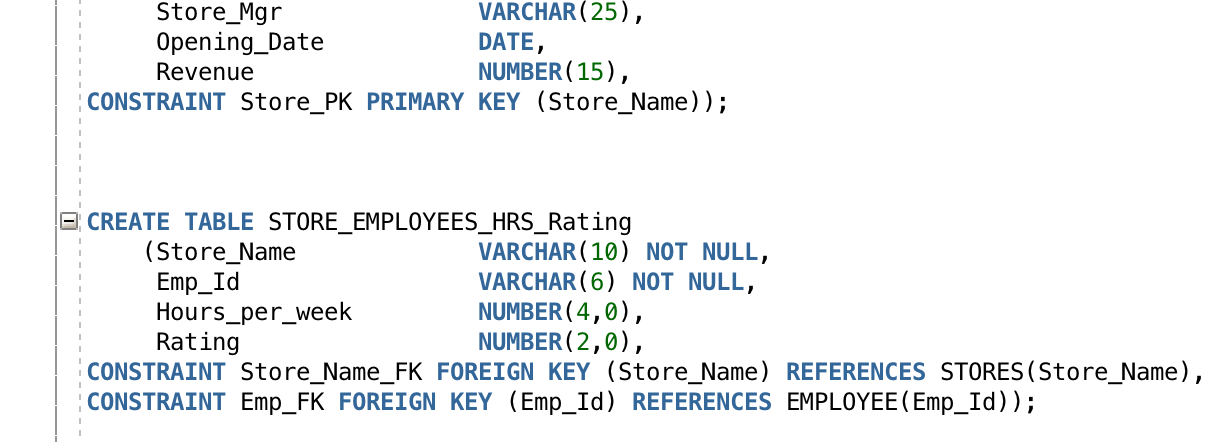
Hours\_per\_week NUMBER(4,0),

Rating NUMBER(2,0),

CONSTRAINT Store\_Name\_FK FOREIGN KEY (Store\_Name) REFERENCES STORES(Store\_Name),

CONSTRAINT Emp\_FK FOREIGN KEY (Emp\_Id) REFERENCES EMPLOYEE(Emp\_Id));





INSERT INTO dept\_super (Emp\_Dept, Emp\_super) VALUES (10, 'Levine');

INSERT INTO dept\_super (Emp\_Dept, Emp\_super) VALUES (12, 'Jones');

INSERT INTO dept\_super (Emp\_Dept, Emp\_super) VALUES (15, 'Jones');

INSERT INTO employee (Emp\_Id, Emp\_salary, Emp\_Dept) VALUES ('E-101', 60000, 10);

INSERT INTO employee (Emp\_Id, Emp\_salary, Emp\_Dept) VALUES ('E-105', 55000, 12);

INSERT INTO employee (Emp\_Id, Emp\_salary, Emp\_Dept) VALUES ('E-110', 43000, 10);

INSERT INTO employee (Emp\_Id, Emp\_salary, Emp\_Dept) VALUES ('E-120', 45000, 15);

INSERT INTO stores (Store\_Name, Store\_Mgr, Opening\_Date, revenue) VALUES ('PA\_store', 'Jones', to\_date('1/15/2015', 'MM/DD/YYYY'), 100000);

INSERT INTO stores (Store\_Name, Store\_Mgr, Opening\_Date, revenue) VALUES ('NJ\_store', 'Smith', to\_date('3/1/2014', 'MM/DD/YYYY'), 200000);

INSERT INTO store\_employees\_hrs\_rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating) VALUES ('PA\_store', 'E-101', 25, 9);

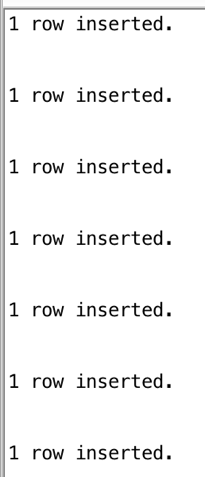
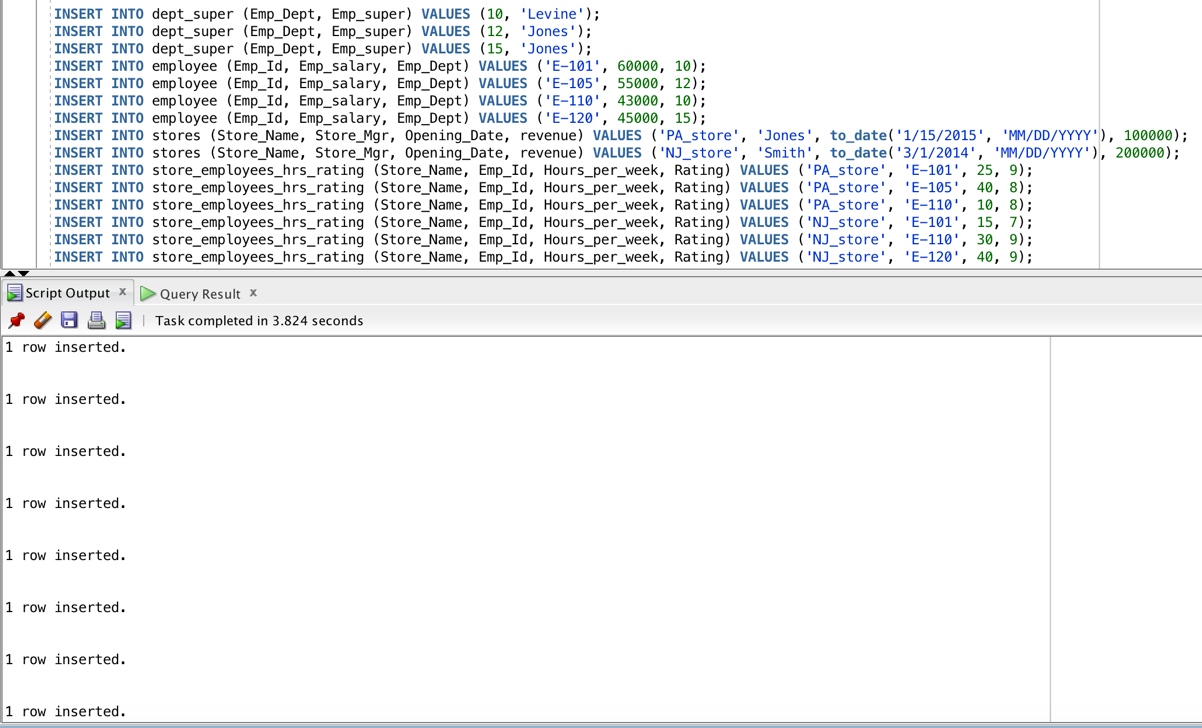
INSERT INTO store\_employees\_hrs\_rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating) VALUES ('PA\_store', 'E-105', 40, 8);

INSERT INTO store\_employees\_hrs\_rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating) VALUES ('PA\_store', 'E-110', 10, 8);

INSERT INTO store\_employees\_hrs\_rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating) VALUES ('NJ\_store', 'E-101', 15, 7);

INSERT INTO store\_employees\_hrs\_rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating) VALUES ('NJ\_store', 'E-110', 30, 9);

INSERT INTO store\_employees\_hrs\_rating (Store\_Name, Emp\_Id, Hours\_per\_week, Rating) VALUES ('NJ\_store', 'E-120', 40, 9);



**Part 3:**

select s.store\_name, s.store\_mgr, e.emp\_id, se.hours\_per\_week, s.revenue, to\_char(s.opening\_date, 'MM/DD/YYYY') as Opening\_Date, e.emp\_salary, ds.emp\_super, ds.emp\_dept, se.rating

from employee e inner join dept\_super ds on ds.emp\_dept = e.emp\_dept

inner join store\_employees\_hrs\_rating se on e.emp\_id = se.emp\_id

inner join stores s on se.store\_name = s.store\_name;

