Chapter 8 Problems

Assignment 9

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1. Write the SQL code that will create only the table structure for a table named EMP\_1. This table will be a subset of the EMPLOYEE table. The basic EMP\_1 table structure is summarized in the following table. Use EMP\_NUM as the primary key. Note that the JOB\_CODE is the FK to JOB so be certain to enforce referential integrity. Your code should also prevent null entries in EMP\_LNAME and EMP\_FNAME.

Answer:

CREATE TABLE EMP\_1 (

EMP\_NUM CHAR(3) PRIMARY KEY,

EMP\_LNAME VARCHAR(15),

EMP\_FNAME VARCHAR(15),

EMP\_INITIAL CHAR(1),

EMP\_HIREDATE DATE,

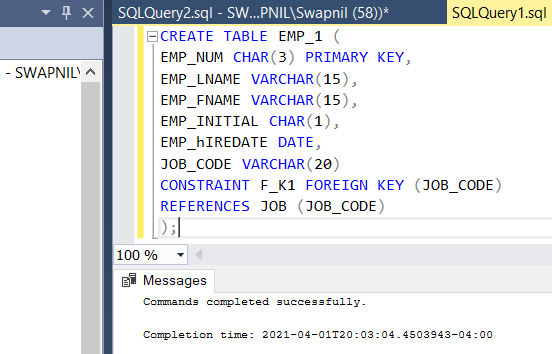
JOB\_CODE VARCHAR(20)

CONSTRAINT F\_K1 FOREIGN KEY (JOB\_CODE)

REFERENCES JOB (JOB\_CODE)

);

Note: I have used data type of Varchar for Job\_code because the parent table was already created while performing assignment7 questions. MS SQL server will throw error if use different data type while referencing the existing table.

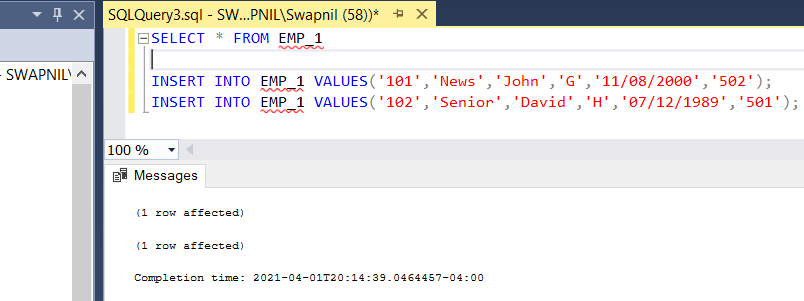


1. Having created the table structure in Problem 1, write the SQL code to enter the first two rows for the table shown in Figure P8.2. Each row should be inserted individually, without using a subquery. Insert the rows in the order that they are listed in the figure.

Answer:

INSERT INTO EMP\_1 VALUES('101','News','John','G','11/08/2000','502');

INSERT INTO EMP\_1 VALUES('102','Senior','David','H','07/12/1989','501');



1. Using the EMPLOYEE table that already exists, use a subquery to insert the remaining rows from the EMPLOYEE table into the EMP\_1 table. Remember, your subquery should only retrieve the columns needed for the EMP\_1 table and only the employees shown in the figure.

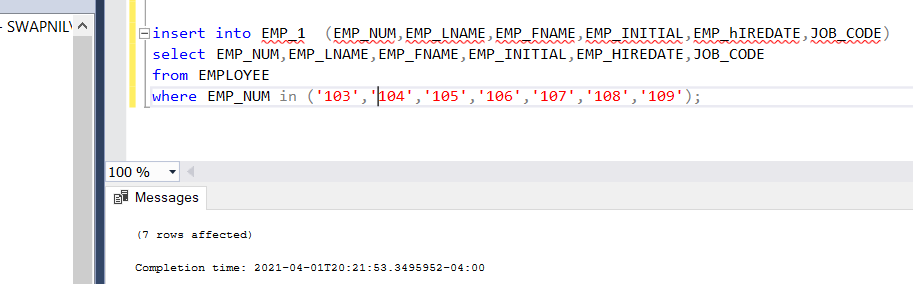
Answer:

INSERT INTO EMP\_1 (EMP\_NUM,EMP\_LNAME,EMP\_FNAME,EMP\_INITIAL,EMP\_hIREDATE,JOB\_CODE)

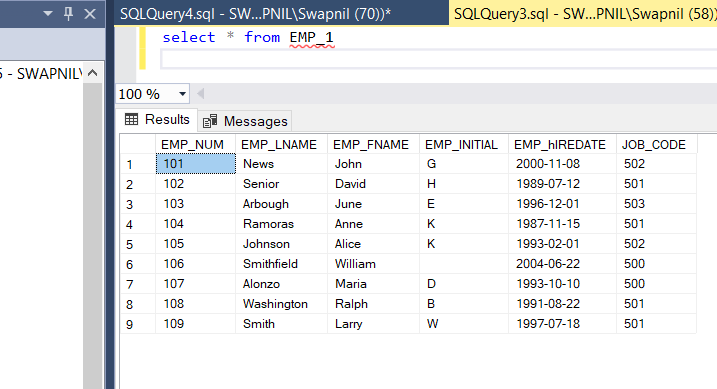
SELECT EMP\_NUM,EMP\_LNAME,EMP\_FNAME,EMP\_INITIAL,EMP\_HIREDATE,JOB\_CODE

FROM EMPLOYEE

WHERE EMP\_NUM in ('103','104','105','106','107','108','109');



Verification:



1. Write the SQL code that will save the changes made to the EMP\_1 table (if supported by your DBMS).

Answer:

As I mentioned previously, I am using MS SQL server to run my queries. SQL Server unlike

Oracle does not require commits unless we are using transactions. Although the syntax for commit is: - COMMIT;

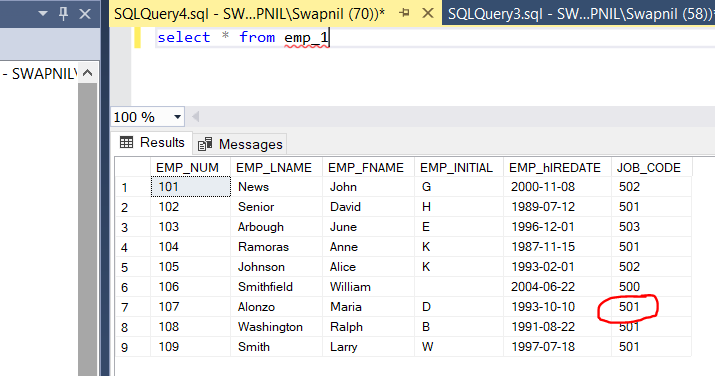
1. Write the SQL code to change the job code to 501 for the person whose employee number (EMP\_NUM) is 107.

Answer:

UPDATE EMP\_1

SET JOB\_CODE = '501'

WHERE EMP\_NUM ='107'

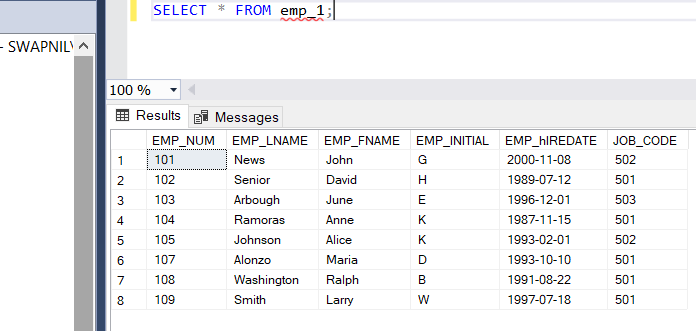


1. Write the SQL code to delete the row for William Smithfield, who was hired on June 22, 2004, and whose job code is 500. (Hint: Use logical operators to include all of the information given in this problem. Remember, if you are using MySQL, you will have to first disable “safe mode.”)

Answer:

DELETE FROM EMP\_1

WHERE EMP\_hIREDATE = '6/22/2004' AND JOB\_CODE = '500';



1. Write the SQL code to create a copy of EMP\_1, including all of its data, and naming the copy EMP\_2.

Answer:

CREATE TABLE EMP\_2 (

EMP\_NUM CHAR(3) PRIMARY KEY,

EMP\_LNAME VARCHAR(15),

EMP\_FNAME VARCHAR(15),

EMP\_INITIAL CHAR(1),

EMP\_HIREDATE DATE,

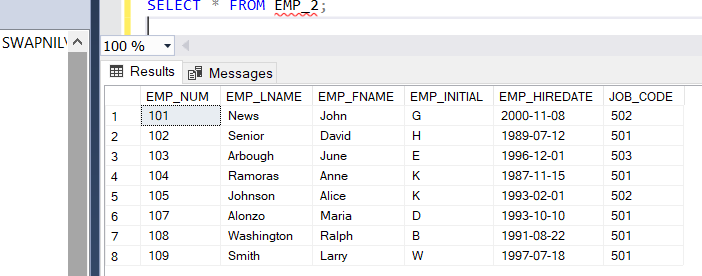
JOB\_CODE VARCHAR(20)

CONSTRAINT F\_K2 FOREIGN KEY (JOB\_CODE)

REFERENCES JOB (JOB\_CODE)

);

INSERT INTO EMP\_2 SELECT \* FROM EMP\_1;



1. Using the EMP\_2 table, write the SQL code that will add the attributes EMP\_PCT and PROJ\_NUM to EMP\_2. The EMP\_PCT is the bonus percentage to be paid to each employee. The new attribute characteristics are: EMP\_PCT NUMBER (4,2) PROJ\_NUM CHAR(3) Note: If your SQL implementation requires it, you may use DECIMAL(4,2) or NUMERIC(4,2) rather than NUMBER(4,2).

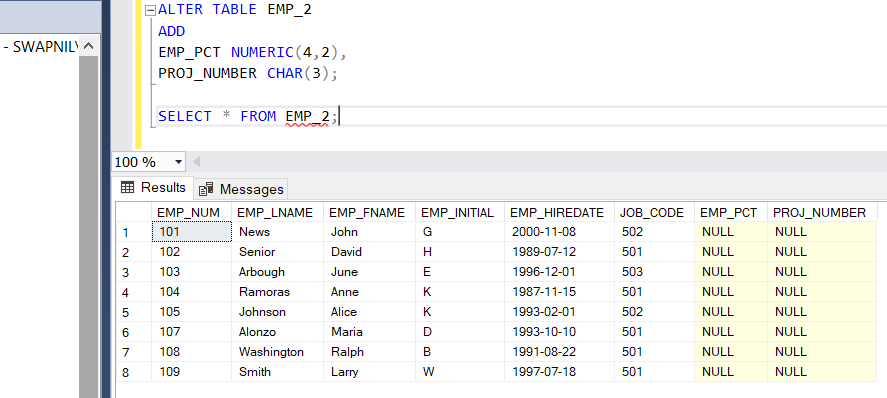
Answer:

ALTER TABLE EMP\_2

ADD

EMP\_PCT NUMERIC(4,2),

PROJ\_NUMBER CHAR(3);



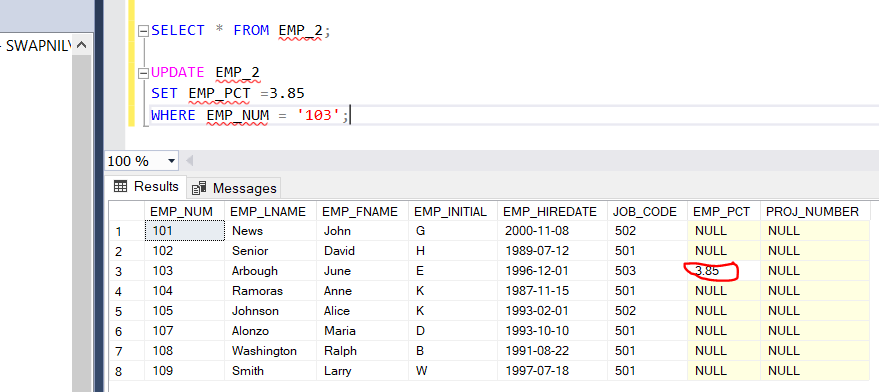
1. Using the EMP\_2 table, write the SQL code to change the EMP\_PCT value to 3.85 for the person whose employee number (EMP\_NUM) is 103.

Answer:

UPDATE EMP\_2

SET EMP\_PCT =3.85

WHERE EMP\_NUM = '103';



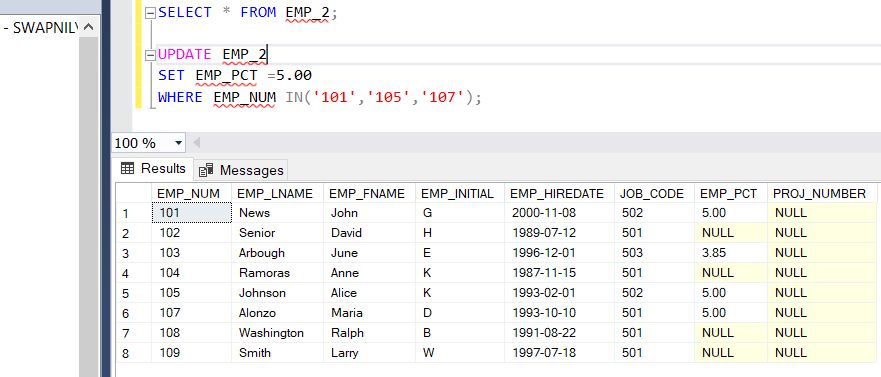
1. Using the EMP\_2 table, write a single SQL command to change the EMP\_PCT value to 5.00 for the people with employee numbers 101, 105, and 107.

Answer:

UPDATE EMP\_2

SET EMP\_PCT =5.00

WHERE EMP\_NUM IN('101','105','107');



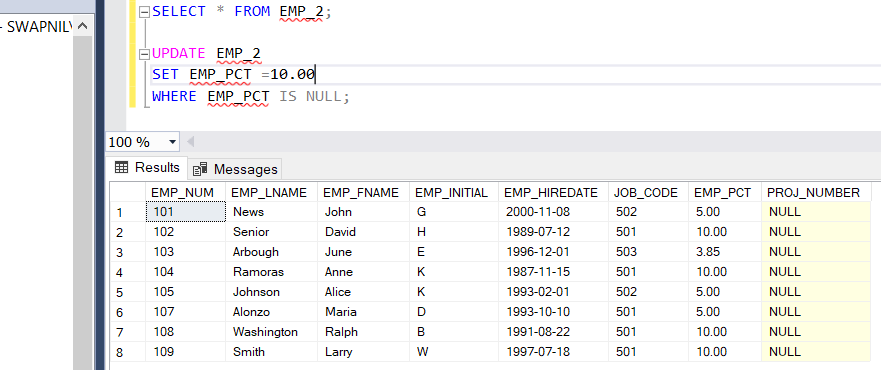
1. Using the EMP\_2 table, write a single SQL command to change the EMP\_PCT value to 10.00 for all employees who do not currently have a value for EMP\_PCT.

Answer:

UPDATE EMP\_2

SET EMP\_PCT =10.00

WHERE EMP\_PCT IS NULL;



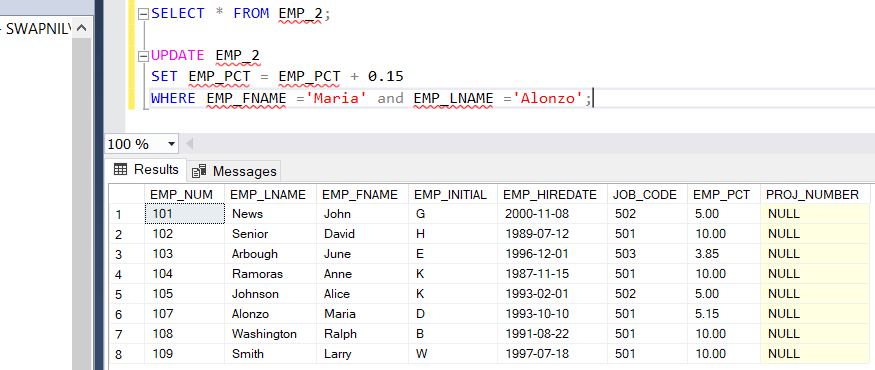
1. Using the EMP\_2 table, write the SQL command to add .15 to the EMP\_PCT of the employee whose name is Maria D. Alonzo. (Use the employee’s name in your command to determine the correct employee.)

Answer:

UPDATE EMP\_2

SET EMP\_PCT = EMP\_PCT + 0.15

WHERE EMP\_FNAME ='Maria' and EMP\_LNAME ='Alonzo';



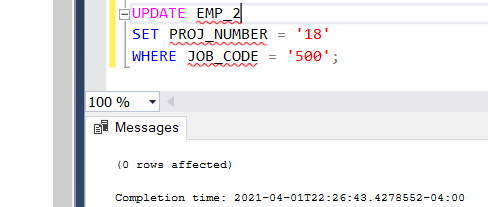
1. Using a single command sequence with the EMP\_2 table, write the SQL code that will change the project number (PROJ\_NUM) to 18 for all employees whose job classification (JOB\_CODE) is 500.

Answer:

UPDATE EMP\_2

SET PROJ\_NUMBER = '18'

WHERE JOB\_CODE = '500';



NOTE: There were no entries with JOB\_CODE = ‘ 500’ as they were changed to different values in the previous update statements. Although the above query works fine if we have any entry with JOB\_CODE = ‘500’

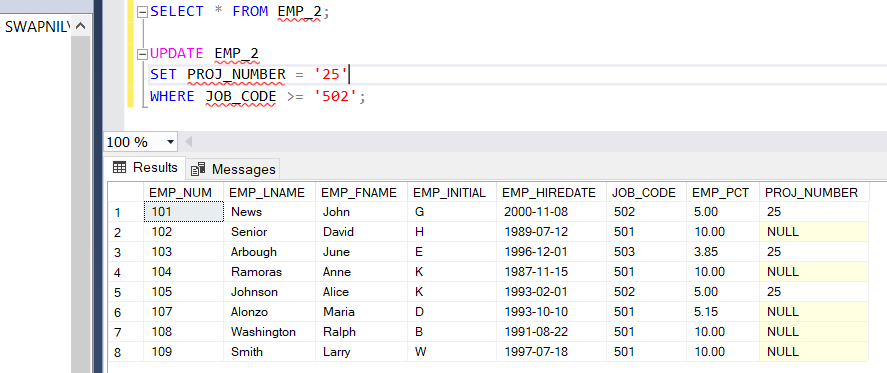
1. Using a single command sequence with the EMP\_2 table, write the SQL code that will change the project number (PROJ\_NUM) to 25 for all employees whose job classification (JOB\_CODE) is 502 or higher.

Answer:

UPDATE EMP\_2

SET PROJ\_NUMBER = '25'

WHERE JOB\_CODE >= '502';



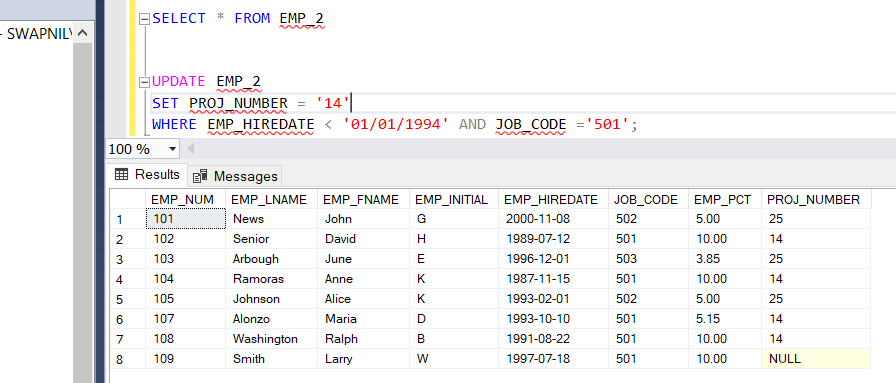
1. Write the SQL code that will change the PROJ\_NUM to 14 for employees who were hired before January 1, 1994, and whose job code is at least 501. When you finish Problems 7–15, the EMP\_2 table will contain the data shown in Figure P8.15.

Answer:

UPDATE EMP\_2

SET PROJ\_NUMBER = '14'

WHERE EMP\_HIREDATE < '01/01/1994' AND JOB\_CODE ='501';



Note: Output looks the same except for the part where JOB\_CODE =’500’ as it was updated previously.

1. Create the CUSTOMER table structure illustrated in Figure P8.16. The customer number should store integer values. The name attributes should support variable length character data up to 30 characters each. The customer balance should support up to six digits on the left of the decimal place and two digits to the right of the decimal place.

Answer:

CREATE TABLE CUSTOMER(

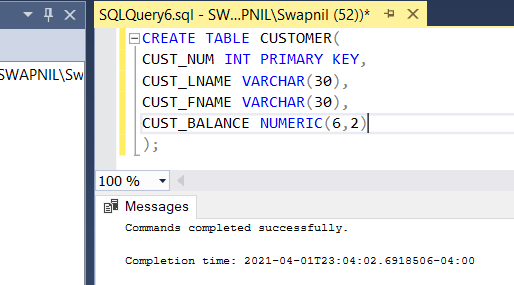
CUST\_NUM INT PRIMARY KEY,

CUST\_LNAME VARCHAR(30),

CUST\_FNAME VARCHAR(30),

CUST\_BALANCE NUMERIC(6,2)

);



1. Create the INVOICE table structure illustrated in Figure P8.16. The invoice number should store integer values. The invoice date should store date values. The invoice amount should support up to 8 digits to the left of the decimal place and two digits to the right of the decimal place.

Answer:

CREATE TABLE INVOICE(

INV\_NUM INT PRIMARY KEY,

CUST\_NUM INT

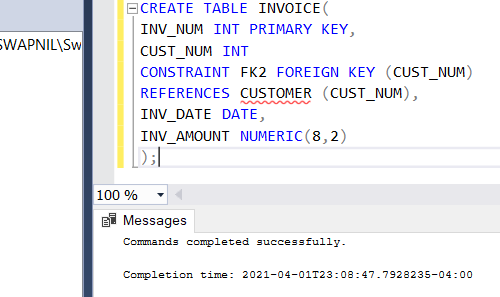
CONSTRAINT FK2 FOREIGN KEY (CUST\_NUM)

REFERENCES CUSTOMER (CUST\_NUM),

INV\_DATE DATE,

INV\_AMOUNT NUMERIC(8,2)

);

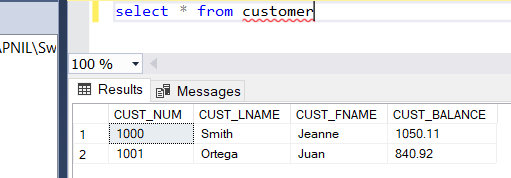


1. Write the set of SQL commands necessary to insert the data into the CUSTOMER table you created in Problem 16, as illustrated in Figure P8.16.

Answer:

INSERT INTO CUSTOMER VALUES (1000,'Smith','Jeanne',1050.11);

INSERT INTO CUSTOMER VALUES (1001,'Ortega','Juan',840.92);



1. Write the set of SQL commands necessary to insert the data into the INVOICE table you created in Problem 17, as illustrated in Figure P8.16.

Answer:

INSERT INTO INVOICE VALUES (8000,1000,'03/23/2016',235.89);

INSERT INTO INVOICE VALUES (8001,1001,'03/23/2016',315.82);

INSERT INTO INVOICE VALUES (8002,1001,'03/30/2016',528.10);

INSERT INTO INVOICE VALUES (8003,1000,'04/12/2016',194.78);

INSERT INTO INVOICE VALUES (8004,1000,'04/23/2016',619.44);

