

Name: Mah Rukh

Roll No: 22L-6702

Section: BCS-4J

Assignment 1

Instructor: Ms. Aleena Ahmad

Course: Database Systems (CS-2005)

Submission Deadline: 18-02-2024

**Part 2:**

**Q1:** Create the DEPARTMENT table based on the following table instance chart.

Name Null Type

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ID Number (7)

A close up of a name

Description automatically generatedNAME VARCHAR2 (25)

Query (SQL Server):

create table Departments(

ID int,

Name varchar(25)

)

Select \* FROM Departments

**Q2:** Populate the DEPARTMENT table with some data. Include only columns that you need.

Query (SQL SERVER):

A screenshot of a computer

Description automatically generatedInsert into Departments

VALUES (2767543, 'Electrical Engineering'),

(5427892, 'Civil Engineering'),

(2476257, 'Mechanical Engineering'),

(8717635, 'Computer Science'),

(3876215, 'Mathematics')

Select \* FROM Departments

**Q3:** Create the EMPLOYEE table based on the following table instance chart.

Name Null? Type

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ID NUMBER (7)

LAST\_NAME VARCHAR2 (25)

FIRST\_NAME VARCHAR2 (25)

DEPT\_ID NUMBER (7)

Query (SQL SERVER):

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Description automatically generatedcreate Table Employee(

ID\_Number int,

Last\_Name varchar(25),

First\_Name varchar(25),

Dept\_ID int

)

Select \* FROM Employee

**Q4:** Create a MY\_EMPLOYEE table. Describe the structure of the MY\_EMPLOYEE table to identify the column names.

ID NOT NULL NUMBER (4)

LAST\_NAME VARCHAR2 (25)

FIRST\_NAME VARCHAR2 (25)

USERID VARCHAR2 (8)

SALARY NUMBER (9, 2)

Query (SQL SERVER):

A screen shot of a computer

Description automatically generatedcreate Table my\_Employee(

ID int NOT NULL,

Last\_Name varchar(25),

First\_Name varchar(25),

UserID varchar(8),

Salary decimal(9,2)

)

Select \* FROM my\_Employee

**Q5:** Add the first row of data to the MY\_EMPLOYEE table from the following sample data.

Do not list the columns in the INSERT clause.

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Description automatically generatedQuery (SQL SERVER):

INSERT INTO my\_Employee

VALUES (1, 'Patel','Ralph','rpatel',795)

Select \* FROM my\_Employee

**Q6:** Populate the MY\_EMPLOYEE table with the second row of sample data from the

preceding list. This time, list the columns explicitly in the INSERT clause.

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Description automatically generatedQuery (SQL SERVER):

INSERT INTO my\_Employee

(ID, Last\_Name, First\_Name, UserID, Salary)

VALUES (2, 'Dancs','Betty','bdancs', 860)

SELECT \* FROM my\_Employee

**Q7:** Confirm your addition to the table.

ID LAST\_NAME FIRST\_NAME USERID SALARY

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1 Patel Ralph rpatel 795

2 Dancs Betty bdancs 860

Query (SQL SERVER):

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Description automatically generatedSELECT \* FROM my\_Employee

**Q8:** Change the last name of employee last\_name ‘Dancs’ to ‘Hammad’

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Description automatically generatedQuery (SQL SERVER):

UPDATE my\_Employee

SET Last\_Name ='Hammad' WHERE Last\_Name='Dancs'

SELECT \* FROM my\_Employee

**Q9:** Change the salary of all those employees who have a letter ‘t’ in their name with salary

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Query (SQL SERVER):

UPDATE my\_Employee

SET Salary = 3000

WHERE Salary Between 500 AND 2000

AND (First\_Name LIKE '%t%' OR Last\_Name LIKE'%t%')

SELECT \* FROM my\_Employee

**Q10:** Delete an employee who have salary greater than 5000.

A screenshot of a cellphone

Description automatically generatedQuery (SQL SERVER):

--inserting an employee with salary >5000

to make sure if it works

INSERT INTO my\_Employee

(ID, Last\_Name, First\_Name, UserID, Salary)

VALUES (3, 'Raza','Hassan','Hraza', 5200)

SELECT \* FROM my\_Employee

DELETE FROM my\_Employee

A screenshot of a computer

Description automatically generatedWHERE Salary > 5000

SELECT \* FROM my\_Employee

**Q11:** Create the “MYEMP1\_ (Your Roll #)”, “MYDEPT1\_ (Your Roll #)” tables based on the following table instance chart. Confirm that the table is created.

Query (SQL SERVER):

A close up of a word

Description automatically generatedcreate table myDept1\_22L6702(

Department\_ID int Primary key,

Name varchar(25),

Location varchar(15)

)

SELECT \* FROM myDept1\_22L6702

create table myEmp1\_L226702(

ID int Primary key,

Name varchar(25),

Dept\_ID int FOREIGN KEY REFERENCES myDept1\_22L6702 (Department\_ID)

)

SELECT \* FROM myEmp1\_L226702

**Q12:** Modify the above table to allow for longer employee names. Confirm your

modification.

Query (SQL SERVER):

ALTER Table myEmp1\_L226702

ALTER Column Name varchar(50)

INSERT INTO myEmp1\_L226702 (ID, NAME)VALUES (2275, 'Muhammad Ahmad Hashim Qureshi')

SELECT \* FROM myEmp1\_L226702

**Q13:** Modify the above table to allow for employee ID to length 12. Confirm your

modification.

Query (SQL SERVER):

--getting constraint name from system

SELECT name

FROM sys.key\_constraints

WHERE parent\_object\_id = OBJECT\_ID('myEmp1\_L226702') AND type = 'PK'

--dropping constraint as cannot modify datatype alongside

ALTER TABLE myEmp1\_L226702

DROP CONSTRAINT PK\_\_myEmp1\_L\_\_3214EC27C303455A

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Description automatically generatedALTER Table myEmp1\_L226702

ALTER Column ID bigint

ALTER Table myEmp1\_L226702

ALTER COLUMN ID bigint NOT NULL

ALTER Table myEmp1\_L226702

ADD UNIQUE (ID)

ALTER TABLE myEmp1\_L226702

ADD PRIMARY KEY (ID)

--adding check to bigint

Alter table myEmp1\_L226702

ADD check(ID<1000000000000)

UPDATE myEmp1\_L226702

SET ID= 123456789121

WHERE ID = 2275

SELECT \* FROM myEmp1\_L226702

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Description automatically generated**Q14:** Populate MYDEPT1\_ (Your Roll #) with data from the DEPT table. Include only columns that you need.

Query (SQL SERVER):

INSERT INTO myDept1\_22L6702 (Department\_ID, Name)

SELECT ID/10000, Name FROM Departments

SELECT \* FROM myDept1\_22L6702

--department has id of 7 digits so converting it to 3 digits for myDept1

**Q15:** Insert a row in MYEMP1\_ (Your Roll #) with id=”your ID”, name=”your name” and dept\_id = 100 (In both cases 1) inserted 2) not inserted write reason)

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Description automatically generatedQuery (SQL SERVER):

INSERT INTO myEmp1\_L226702

VALUES (226702, 'Mah Rukh',100)

Select\* FROM myEmp1\_L226702

--not inserted as dept\_id is a foreign key and 100 doesnot has a reference of dept\_Id in myDept1\_22L6702

A screenshot of a computer

Description automatically generatedINSERT INTO myEmp1\_L226702

VALUES (226702, 'Mah Rukh',247)

Select\* FROM myEmp1\_L226702

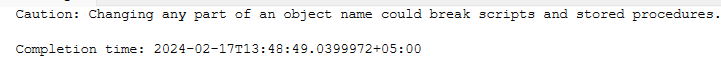
--inserted as dept\_id is refernced as from table myDept and found in dept\_id

**Q16:** Rename the “MYEMP1\_ (Your Roll #)” table to “EMP1\_ (Your Roll #)” and “MYEMP2\_ (Your Roll #)” to “EMP2\_ (Your Roll #)”

Query (SQL SERVER):

EXEC sp\_rename 'myEmp1\_L226702','Emp1\_L226702'

EXEC sp\_rename 'myDept1\_22L6702','Dept1\_22L6702'



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Description automatically generated**Q17:** Drop the NAME column from the EMP2\_ (Your Roll #) table. Confirm your modification by checking the description of the table.

Query (SQL SERVER):

ALTER TABLE Dept1\_22L6702

DROP COLUMN Name;

SELECT\* FROM Dept1\_22L6702

**Q18:** Drop the EMP1\_ (Your Roll #) table. And confirm your work.

Query (SQL SERVER):

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Description automatically generatedDROP TABLE Emp1\_L226702

SELECT \* FROM Emp1\_L226702