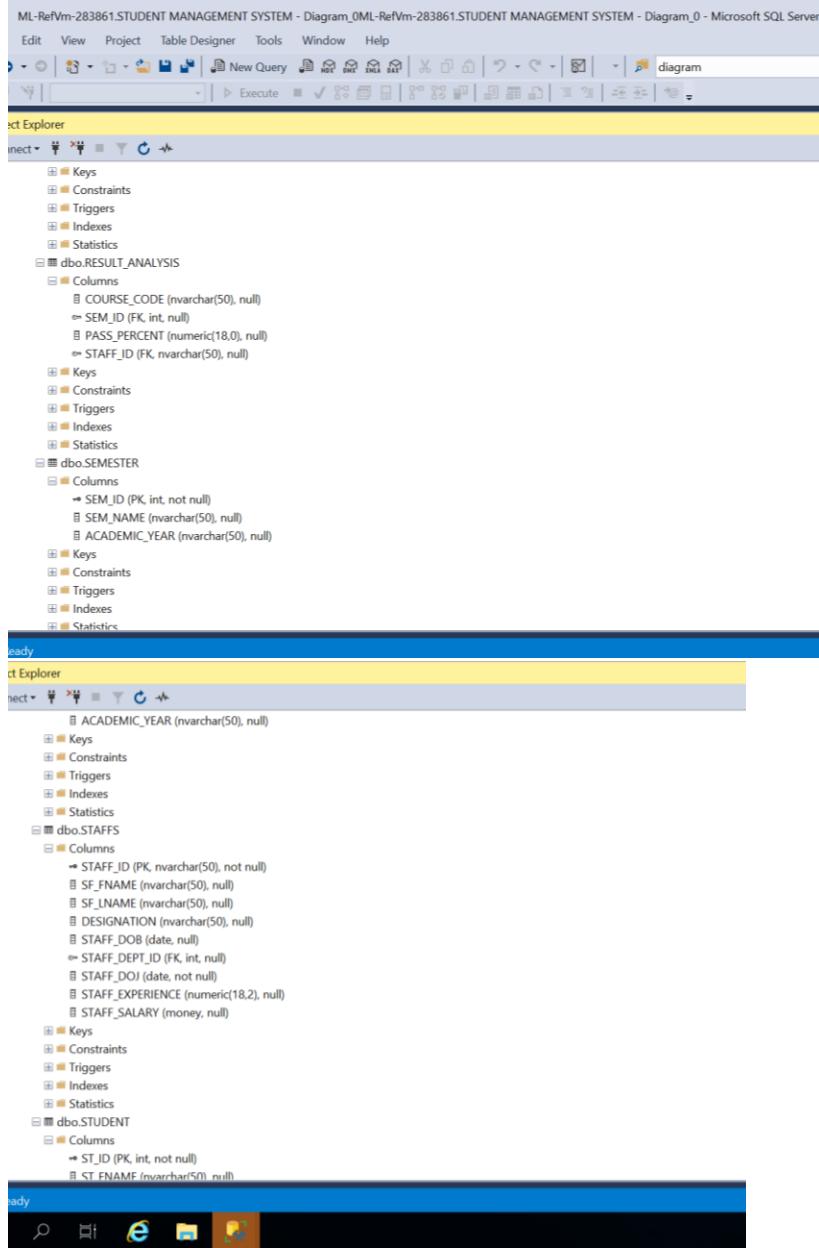


Assignment - 1 : RDBMS-Define relational database to build database for an application

1



Object Explorer

Connect ▾

- Triggers
- Indexes
- Statistics
- dbo.STUDENT**
 - Columns
 - ST_ID (PK int, not null)
 - ST_FNAME (nvarchar(50), null)
 - ST_LNAME (nvarchar(50), null)
 - DOB (date, null)
 - JOIN_DATE (date, null)
 - ST_DEPT_ID (FK, int, null)
 - HOUSE_NAME (nvarchar(50), null)
 - STREET_NAME (nvarchar(50), null)
 - CITY (nvarchar(50), null)
 - ZIPCODE (int, null)
 - STAFF_INCHARGE_ID (FK, nvarchar(50), null)
 - Keys
 - Constraints
 - Triggers
 - Indexes
 - Statistics
- dbo.STUDENT_MARKS**
 - Columns
 - ST_ID (FK, int, null)
 - SEM_ID (FK, int, null)
 - COURSE_CODE1 (FK, nvarchar(50), null)
 - Keys
 - Constraints
 - Triggers
 - Indexes
 - Statistics

Object Explorer

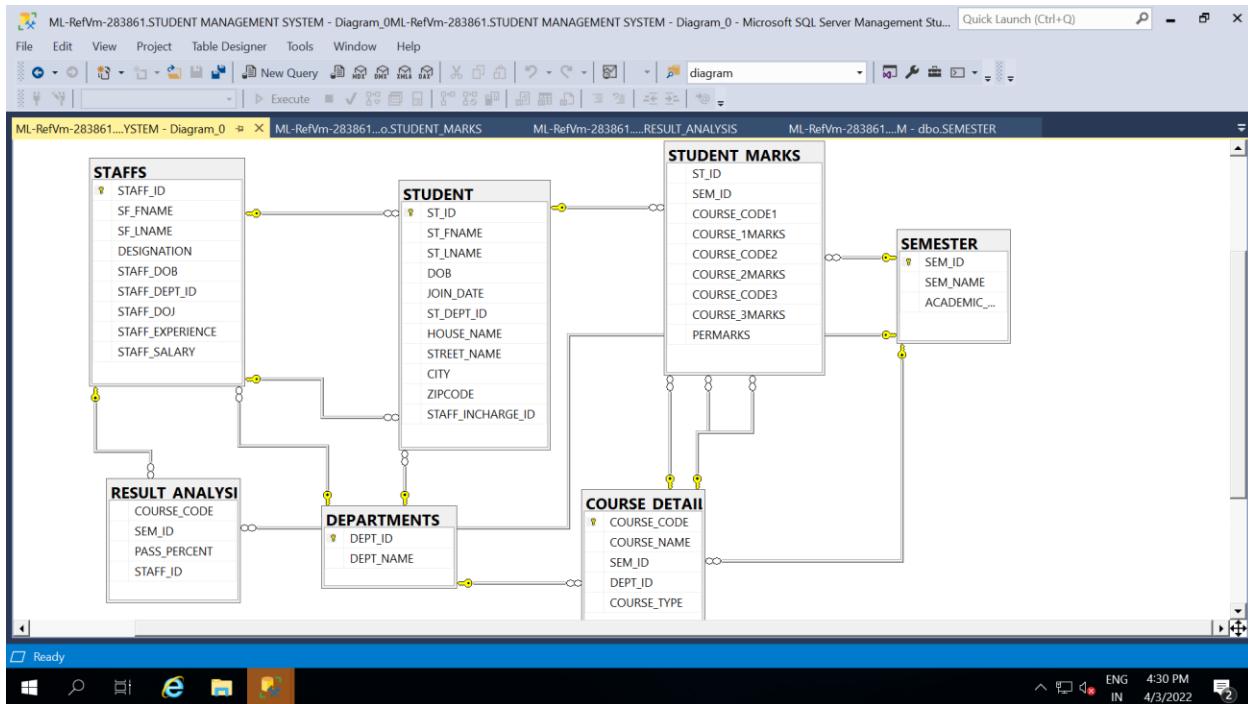
Connect ▾

- HOUSE_NAME (nvarchar(50), null)
- STREET_NAME (nvarchar(50), null)
- CITY (nvarchar(50), null)
- ZIPCODE (int, null)
- STAFF_INCHARGE_ID (FK, nvarchar(50), null)
- Keys
- Constraints
- Triggers
- Indexes
- Statistics
- dbo.STUDENT_MARKS**
 - Columns
 - ST_ID (FK, int, null)
 - SEM_ID (FK, int, null)
 - COURSE_CODE1 (FK, nvarchar(50), null)
 - COURSE_1MARKS (numeric(18,0), null)
 - COURSE_CODE2 (FK, nvarchar(50), null)
 - COURSE_2MARKS (numeric(18,0), null)
 - COURSE_CODE3 (FK, nvarchar(50), null)
 - COURSE_3MARKS (numeric(18,0), null)
 - PERMARKS (numeric(18,0), null)
 - Keys
 - Constraints
 - Triggers
 - Indexes
 - Statistics

Ready

Connect ▾

- System Databases
- Database Snapshots
- SMS
- STUDENT MANAGEMENT SYSTEM**
 - Database Diagrams
 - dbo.Diagram_0
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.COURSE_DETAILS**
 - Columns
 - COURSE_CODE (PK, nvarchar(50), not null)
 - COURSE_NAME (nvarchar(50), null)
 - SEM_ID (FK, int, null)
 - DEPT_ID (FK, int, null)
 - COURSE_TYPE (nvarchar(50), null)
 - Keys
 - Constraints
 - Triggers
 - Indexes
 - Statistics
 - dbo.DEPARTMENTS**
 - dbo.RESULT_ANALYSIS**
 - rhn SEMESTER**



SQLQuery3.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (60)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

SQLQuery3.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (60))

```

SELECT TOP (1000) [ST_ID]
      ,[SEM_ID]
      ,[COURSE_CODE1]
      ,[COURSE_1MARKS]
      ,[COURSE_CODE2]
      ,[COURSE_2MARKS]
      ,[COURSE_CODE3]
      ,[COURSE_3MARKS]
      ,[PERMARKS]
  FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[STUDENT_MARKS]
  
```

Object Explorer

- ML-RefVm-283861\labuser (60)
 - Databases
 - System Databases
 - Database Snapshots
 - SMS
 - STUDENT MANAGEMENT SYSTEM
 - Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - COURSE_DETAILS
 - DEPARTMENTS
 - RESULT_ANALYSIS
 - SEMESTER
 - STAFFS
 - STUDENT
 - STUDENT_MARKS
 - Views
 - External Resources
 - Synonyms
 - Programmability
 - Service Broker
 - Storage

Results

ST_ID	SEM_ID	COURSE_CODE1	COURSE_1MARKS	COURSE_CODE2	COURSE_2MARKS	COURSE_CODE3	COURSE_3MARKS	PERMARKS
1	7	M10008	76	HH1779	56	JKA1111	99	300
2	8	DD1002	78	M10008	45	CC1001	77	245
3	6	HH1779	76	CC1001	87	DD1002	54	298
4	8	3	77	M10008	67	JKA1111	88	260
5	9	JKA1111	90	M10008	98	CC1001	100	400

Query executed successfully.

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (62)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q)

STUDENT MANAGEMENT SYSTEM

Object Explorer

File Edit View Query Project Tools Window Help

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (62)) SQLQuery3.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (60)) SQLQuery2.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (58))

***** Script for SelectTopNRows command from SSMS *****

```
SELECT TOP (1000) [SEM_ID]
      ,[SEM_NAME]
      ,[ACADEMIC_YEAR]
  FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[SEMESTER]
```

Results

SEM_ID	SEM_NAME	ACADEMIC_YEAR
1	ODD	2004-2005
2	EVEN	2004-2005
3	ODD	2005-2006
4	EVEN	2005-2006
5	ODD	2007-2008
6	EVEN	2008-2009
7	ODD	2010-2011
8	EVEN	2010-2011

Query executed successfully. | (local) (15.0 RTM) | ML-RefVm-283861\labuser... | STUDENT MANAGEMENT SYSTEM | 00:00:00 | 8 rows

LN 1 Col 1 Ch 1 INS

Ready

SQLQuery6.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (55)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q)

STUDENT MANAGEMENT SYSTEM

Object Explorer

File Edit View Query Project Tools Window Help

SQLQuery6.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (55)) ML-RefVm-283861....RESULT ANALYSIS SQLQuery5.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (57))

***** Script for SelectTopNRows command from SSMS *****

```
SELECT TOP (1000) [COURSE_CODE]
      ,[SEM_ID]
      ,[PASS_PERCENT]
      ,[STAFF_ID]
  FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[RESULT_ANALYSIS]
```

Results

COURSE_CODE	SEM_ID	PASS_PERCENT	STAFF_ID
DD1002	4	70	L10001
HH1779	5	80	M1009
JKA1111	3	90	Q10001
M10008	2	75	T10002
CC1001	1	85	CS1000

Query executed successfully. | (local) (15.0 RTM) | ML-RefVm-283861\labuser... | STUDENT MANAGEMENT SYSTEM | 00:00:00 | 5 rows

LN 1 Col 1 Ch 1 INS

Ready

SQLQuery7.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (61)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q)

STUDENT MANAGEMENT SYSTEM

Object Explorer

File Server Database Snapshots SMS STUDENT MANAGEMENT SYSTEM Database Diagrams Tables System Tables FileTables External Tables Graph Tables dbo.COURSE_DETAILS dbo.DEPARTMENTS dbo.RESULT_ANALYSIS dbo.SEMESTER dbo.STAFFS dbo.STUDENT dbo.STUDENT_MARKS Views External Resources Synonyms Programmability Service Broker Storage

SQLQuery7.sql - (lo...83861\labuser (61)) SQLQuery6.sql - (lo...83861\labuser (55)) ML-RefVm-283861....RESULT_ANALYSIS

```
***** Script for SelectTopNRows command from SSMS *****/
SELECT TOP (1000) [DEPT_ID]
      ,[DEPT_NAME]
   FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[DEPARTMENTS]
```

100 %

DEPT_ID	DEPT_NAME
101	CSE
102	CIVIL
103	ECE
104	BCA

Query executed successfully. (local) (15.0 RTM) ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 4 rows

Ready Ln 1 Col 1 Ch 1 INS ENG 5:17 PM IN 4/3/2022

SQLQuery8.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (64)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q)

STUDENT MANAGEMENT SYSTEM

Object Explorer

File Server Database Snapshots SMS STUDENT MANAGEMENT SYSTEM Database Diagrams Tables System Tables FileTables External Tables Graph Tables dbo.COURSE_DETAILS dbo.DEPARTMENTS dbo.RESULT_ANALYSIS dbo.SEMESTER dbo.STAFFS dbo.STUDENT dbo.STUDENT_MARKS Views External Resources Synonyms Programmability Service Broker Storage

SQLQuery8.sql - (lo...83861\labuser (64)) SQLQuery7.sql - (lo...83861\labuser (61)) SQLQuery6.sql - (lo...83861\labuser (55))

```
***** Script for SelectTopNRows command from SSMS *****/
SELECT TOP (1000) [COURSE_CODE]
      ,[COURSE_NAME]
      ,[SEM_ID]
      ,[DEPT_ID]
      ,[COURSE_TYPE]
   FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[COURSE_DETAILS]
```

100 %

COURSE_CODE	COURSE_NAME	SEM_ID	DEPT_ID	COURSE_TYPE
CC1001	PYTHON	1	101	REGULAR
DD1002	SQL	1	101	REGULAR
HH1779	DOT.NET	2	103	EFFECTIVE
JKA1111	JAVA	3	102	REGULAR
M10008	DBMS	2	104	EFFECTIVE

Query executed successfully. (local) (15.0 RTM) ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 5 rows

Ready Ln 1 Col 1 Ch 1 INS ENG 5:17 PM IN 4/3/2022

SQLQuery1.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (59)) - Microsoft SQL Server Management Studio (Administrator)

```
File Edit View Query Project Tools Window Help
Diagram Quick Launch (Ctrl+Q) X
Object Explorer
Connect Connect ...
STUDENT MANAGEMENT SYSTEM
Databases System Databases Database Snapshots SMS
STUDENT MANAGEMENT SYSTEM
Database Diagrams Tables
System Tables FileTables External Tables Graph Tables
dbo.COURSE_DETAILS dbo.DEPARTMENTS dbo.RESULT_ANALYSIS dbo.SEMESTER dbo.STAFFS dbo.STUDENT dbo.STUDENT_MARKS Views External Resources Synonyms Programmability Service Broker Storage
Results Messages
***** Script for SelectTopNRows command from SSMS *****/
SELECT TOP (1000) [ST_ID]
,[ST_FNAME]
,[ST_LNAME]
,[DOB]
,[JOIN_DATE]
,[ST_DEPT_ID]
,[HOUSE_NAME]
,[STREET_NAME]
,[CITY]
,[ZIPCODE]
,[STAFF_INCHARGE_ID]
FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[STUDENT]
```

100 %

ST_ID	ST_FNAME	ST_LNAME	DOB	JOIN_DATE	ST_DEPT_ID	HOUSE_NAME	STREET_NAME	CITY	ZIPCODE	STAFF_INCHARGE_ID
1	BASKAR	REDDY	2001-12-10	2021-08-02	101	MADESHWARA	RRNAGAR	BANGALORE	560002	CS1000
2	BHAVANA	PRAKHU	2000-07-14	2018-08-07	103	PRABHUSWAMYNILYA	BASWESHWARNAGAR	KOLLEGAL	571440	T10002
3	NAYANA	P	2006-01-05	2017-08-07	101	MENON	SHIVAJINAGAR	TUMUKR	539202	Q10001
4	VIJYA	DESAI	2008-09-05	2018-01-02	102	DESAI	PR PURA	CHITRADURGA	522873	M1009
5	CHAITRA	RAVI	2006-04-02	2019-09-02	104	SAM	NN	MANDYA	50003	Q10001

Query executed successfully. | (local) (15.0 RTM) - ML-RefVm-283861\labuse... | STUDENT MANAGEMENT SYSTEM | 00:00:00 | 5 rows

Ready Ln 1 Col 1 Ch 1 INS

ENG 5:13 PM IN 4/3/2022

SQLQuery2.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (58)) - Microsoft SQL Server Management Studio (Administrator)

```
File Edit View Query Project Tools Window Help
Diagram Quick Launch (Ctrl+Q) X
Object Explorer
Connect Connect ...
STUDENT MANAGEMENT SYSTEM
Databases System Databases Database Snapshots SMS
STUDENT MANAGEMENT SYSTEM
Database Diagrams Tables
System Tables FileTables External Tables Graph Tables
dbo.COURSE_DETAILS dbo.DEPARTMENTS dbo.RESULT_ANALYSIS dbo.SEMESTER dbo.STAFFS dbo.STUDENT dbo.STUDENT_MARKS Views External Resources Synonyms Programmability Service Broker Storage
Results Messages
***** Script for SelectTopNRows command from SSMS *****/
SELECT TOP (1000) [STAFF_ID]
,[SF_FNAME]
,[SF_LNAME]
,[DESIGNATION]
,[STAFF_DOB]
,[STAFF_DEPT_ID]
,[STAFF_DOJ]
,[STAFF_EXPERIENCE]
,[STAFF_SALARY]
FROM [STUDENT MANAGEMENT SYSTEM].[dbo].[STAFFS]
```

100 %

STAFF_ID	SF_FNAME	SF_LNAME	DESIGNATION	STAFF_DOB	STAFF_DEPT_ID	STAFF_DOJ	STAFF_EXPERIENCE	STAFF_SALARY
1	PRABHU	SWAMY	ASS PROF	1987-09-01	103	2016-05-04	2.00	40000.00
2	NAGENDRA	M	HOD	1984-10-18	101	2011-01-07	8.00	10000.00
3	KEERTHI	SURESH	PROF	1989-09-02	101	2017-09-04	7.00	60000.00
4	JYOTHI	G	LECTURE	1987-01-01	104	2012-07-01	10.00	50000.00
5	SRINIVAS	MURTHY	PROF	1986-08-07	102	2015-08-05	4.00	100000.00

Query executed successfully. | (local) (15.0 RTM) - ML-RefVm-283861\labuse... | STUDENT MANAGEMENT SYSTEM | 00:00:00 | 5 rows

Ready Ln 1 Col 1 Ch 1 INS

ENG 5:13 PM IN 4/3/2022

Assignment 2-RDBMS-Database Design-Normalization

1.What is Normalization? What are the types.

It is a process of Reducing Large Table into several small table to identify functional dependency.

1 First NF(1 NF).

1NF- If the table is said to be 1NF it should satisfy two conditions.

The table should not contain any duplicate values.

2 Second NF(2 NF).

2NF- If the table is said to be 2NF it should satisfy two conditions.

The table should Normalize to 1NF

The table should have partial Functional Dependency.

3 Third NF(3 NF)

The table should Normalize to 2NF .

The table should not have any Transactional Functional Dependency.

PROJECT

PROJ_ID	EMP_ID	PROJ_NAME	EMP_NAME	TOT_WORK_HRS	EMP_MOBILE
---------	--------	-----------	----------	--------------	------------

KEY ATTRIBUTES

PROJ_ID	EMP_ID
---------	--------

CONVERTING TO 2NF;

PRO_ID	EMP_ID	TOT_WORK_HRS
--------	--------	--------------

PROJ_ID	PROJ_NAME
---------	-----------

EMP_ID	EMP_NAME	EMP_MOBILE
--------	----------	------------

VECHILE_ID	VECHILE_NAME	VECHICLE_MANUF_YEAR	FUEL_TYPE	CUSTOMER_ID	CUST_MBL_NO
------------	--------------	---------------------	-----------	-------------	-------------

KEY ATTRIBUTES

VECHILE_ID	CUSTOMER_ID
------------	-------------

COVERTING TO 3 NF

VECHILE_ID	VECHILE_NAME	VECHICLE_MANUF_YEAR	FUEL_TYPE	CUSTOMER_ID
------------	--------------	---------------------	-----------	-------------

Assignment 3-CREATING AND MANIPULATING THE DATABASE SCHEMA

Screenshot of Microsoft SQL Server Management Studio (Administrator) showing the creation of a table named 'PLACEMENT_STUDENTS'.

The Object Explorer shows the database structure:

- Databases
- System Databases
- Database Snapshots
- SMS
- Tables
 - System Tables
 - FileTables
 - External Tables
 - Graph Tables
 - dbo.AUTOMOBILE
 - dbo.COURSE_DETAILS
 - dbo.DEPARTMENT
 - dbo.EMPLOYEE**
 - dbo.FACULTY
 - dbo.PLACEMENT_STUDENTS
 - dbo.PROJECT
 - Columns
 - PROJID (PK, int, not null)
 - EMPID (int, null)
 - PROJ_NAME (varchar(50), null)
 - EMP_NAME (varchar(50), null)
 - TOT_WORK_HRS (nchar(10), null)
 - EMP_MOBILE (int, null)
 - Keys

The SQL Query window contains the following T-SQL code:

```
USE [STUDENT MANAGEMENT SYSTEM]
CREATE TABLE PLACEMENT_STUDENTS(ST_ID INT,
ST_NAME NVARCHAR(50),
ST_DEPT_ID INT,
ST_MARKS INT,
CONSTRAINT ST_MARKS_CK CHECK(ST_MARKS>80));
```

The Messages pane shows:

- Commands completed successfully.
- Completion time: 2022-04-03T17:39:08.6730170+00:00

The status bar at the bottom indicates: (local) (15.0 RTM) ML-RefVm-283861\labuser... STUDENT MANAGEMENT SYSTEM 00:00:00 | 0 rows

Screenshot of Microsoft SQL Server Management Studio (Administrator) showing the renaming of a table.

The Object Explorer shows the database structure, identical to the previous screenshot.

The SQL Query window contains the following T-SQL code:

```
USE [STUDENT MANAGEMENT SYSTEM]
GO
EXEC sp_rename 'STAFFS', 'FACULTY'
GO
```

The Messages pane shows:

- Caution: Changing any part of an object name could break scripts and stored procedures.
- Completion time: 2022-04-03T17:44:15.6843324+00:00

The status bar at the bottom indicates: (local) (15.0 RTM) ML-RefVm-283861\labuser... STUDENT MANAGEMENT SYSTEM 00:00:00 | 0 rows

SQLQuery2.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (58)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q)

STUDENT MANAGEMENT SYSTEM

Object Explorer

Results Messages

ST_ID	ST_NAME	ST_DEPT_ID	ST_MARKS
1	BASKAR	101	300
2	BASKAR	101	245
3	BASKAR	101	298
4	BASKAR	101	260
5	BASKAR	101	400
6	BHAVANA	103	300
7	BHAVANA	103	245
8	BHAVANA	103	298
9	BHAVANA	103	260
10	BHAVANA	103	400
11	NAYANA	101	300
12	NAYANA	101	245
13	NAYANA	101	298
14	NAYANA	101	260
15	NAYANA	101	400
16	VIJYA	102	300
17	VIJYA	102	245
18	VIJYA	102	298
19	VIJYA	102	260
20	VIJYA	102	400
21	CHAITRA	104	300
22	CHAITRA	104	245
23	CHAITRA	104	298
24	CHAITRA	104	260
25	CHAITRA	104	400

Query executed successfully. (local) (15.0 RTM) : ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM | 00:00:00 | 25 rows

Ready Ln 6 Col 62 Ch 62 INS

SQLQuery3.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (59)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q)

STUDENT MANAGEMENT SYSTEM

SQLQuery3.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (59))

SQLQuery2.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (58))

SQLQuery1.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (56))

```

COALESCE(COURSE_2MARKS, 0) +
COALESCE(COURSE_3MARKS, 0)
/
IIF (COURSE_1MARKS IS NULL,0,1) +
IIF (COURSE_2MARKS IS NULL,0,1) +
IIF (COURSE_3MARKS IS NULL,0,1);
SELECT
(
COALESCE(COURSE_1MARKS, 0) +
COALESCE(COURSE_2MARKS, 0) +
COALESCE(COURSE_3MARKS, 0)
)
(
IIF (COURSE_1MARKS IS NULL,0,1) +
IIF (COURSE_2MARKS IS NULL,0,1) +
IIF (COURSE_3MARKS IS NULL,0,1)
)
*
FROM STUDENT_MARKS;

```

Results Messages

(No column name)	ST_ID	SEM_ID	COURSE_CODE1	COURSE_1MARKS	COURSE_CODE2	COURSE_2MARKS	COURSE_CODE3	COURSE_3MARKS	PERMARKS
1	77.000000000000	7	M10008	76	HH1779	56	JKA1111	99	77
2	66.666666666666	8	1	DD1002	78	M10008	45	CC1001	77
3	72.3333333333	6	4	HH1779	76	CC1001	87	DD1002	54
4	77.3333333333	8	3	DD1002	77	M10008	67	JKA1111	88
5	96.0000000000	9	5	JKA1111	90	M10008	98	CC1001	100

Query executed successfully. (local) (15.0 RTM) : ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM | 00:00:00 | 5 rows

Ready Ln 14 Col 3 Ch 3 INS

Assignment 4-Querying the Database using SQL-SELECT

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

diagram

STUDENT MANAGEMENT S | Execute

```
SELECT 'L&T Edutech - Building value for learner,Academic and industry'
```

100 %

Results Messages

(No column name)

1 L&T Edutech - Building value for learner,Academ...

Query executed successfully.

Ready Ln 1 Col 72 Ch 72 INS

Quick Launch (Ctrl+Q) (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 1 rows

6:10 PM IN 4/3/2022

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

diagram

STUDENT MANAGEMENT S | Execute

```
select LOWER('I AM A SUCCESFUL PERSON')
```

100 %

Results Messages

(No column name)

1 I am a successful person

Query executed successfully.

Ready Ln 1 Col 40 Ch 40 INS

Quick Launch (Ctrl+Q) (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 1 rows

6:11 PM IN 4/3/2022

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT S | Execute

SQLQuery4.sql - (lo...83861\labuser (52)* SQLQuery3.sql - (lo...83861\labuser (59)* SQLQuery2.sql - (lo...83861\labuser (58) SQLQuery1.sql - (lo...83861\labuser (56))

SELECT DISTINCT(LEN(COURSE_NAME)) FROM COURSE_DETAILS

100 %

Results Messages

(No column name)

1	3
2	4
3	6
4	7

Query executed successfully. (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 4 rows

Ready Ln 1 Col 34 Ch 34 INS

6:16 PM 4/3/2022

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT S | Execute

SQLQuery4.sql - (lo...83861\labuser (52)* SQLQuery3.sql - (lo...83861\labuser (59)* SQLQuery2.sql - (lo...83861\labuser (58) SQLQuery1.sql - (lo...83861\labuser (56))

SELECT DISTINCT(COURSE_NAME) FROM COURSE_DETAILS

100 %

Results Messages

COURSE_NAME

1	DBMS
2	DOT NET
3	JAVA
4	PYTHON
5	SQL

Query executed successfully. (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 5 rows

Ready Ln 1 Col 29 Ch 29 INS

6:16 PM 4/3/2022

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT SYSTEM | Execute | Diagram

SQLQuery4.sql - (lo...83861\labuser (52)* | SQLQuery3.sql - (lo...83861\labuser (59)* | SQLQuery2.sql - (lo...83861\labuser (58)) | SQLQuery1.sql - (lo...83861\labuser (56))*

```
SELECT COUNT (S_ST_ID),
DEPT_NAME FROM STUDENT_MARKS SM,DEPARTMENTS D,
STUDENT S WHERE
SM_ST_ID=S_ST_ID AND
S_ST_DEPT_ID=D_DEPT_ID AND SM.PERMARKS >70
GROUP BY D.DEPT_NAME
```

100 %

Results Messages

(No column name)	DEPT_NAME
1	CIVIL
2	CSE
3	ECE

Query executed successfully. (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 | 3 rows

Ready Ln 7 Col 1 Ch 1 INS

Windows Taskbar: Search, Start, Internet Explorer, File Explorer, Control Panel, Task View, Start, Taskbar Buttons, System, Date/Time

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT SYSTEM | Execute | Diagram

SQLQuery4.sql - (lo...83861\labuser (52)* | SQLQuery3.sql - (lo...83861\labuser (59)* | SQLQuery2.sql - (lo...83861\labuser (58)) | SQLQuery1.sql - (lo...83861\labuser (56))*

```
SELECT ST_ID,
CONCAT_WS(',',HOUSE_NAME,STREET_NAME,CITY,ZIPCODE)
AS ADDRESS FROM STUDENT
```

100 %

Results Messages

ST_ID	ADDRESS
6	MADESHWARA,RRNAGAR,BANGALORE,560002
7	PRABHISWAMYNILYA,BASWESHWARNAGAR,KOLLEGAL,571440
8	MENON,SHIVA,JINAGAR,TUMUKR,539202
9	DESAI,PR,PURA,CHITRADURGA,522873
10	SAM,NN,MANDYA,50003

Query executed successfully. (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 | 5 rows

Ready Ln 4 Col 24 Ch 24 INS

Windows Taskbar: Search, Start, Internet Explorer, File Explorer, Control Panel, Task View, Start, Taskbar Buttons, System, Date/Time

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT S | Execute

SQLQuery4.sql - (lo...83861\labuser (52)* SQLQuery3.sql - (lo...83861\labuser (59)* SQLQuery2.sql - (lo...83861\labuser (58)) SQLQuery1.sql - (lo...83861\labuser (56))

```
SELECT * FROM FACULTY
WHERE SF_FNAME LIKE '%EX%'
```

100 %

Results Messages

	STAFF_ID	SF_FNAME	SF_LNAME	DESIGNATION	STAFF_DOB	STAFF_DEPT_ID	STAFF_DOJ	STAFF_EXPERIENCE	STAFF_SALARY
1	L10001	NAGENDRA	M	HOD	1984-10-18	101	2011-01-07	8.00	10000.00
2	M1009	KEERTHI	SURESH	PROF	1989-09-02	101	2017-09-04	7.00	60000.00

Query executed successfully.

Ready Ln 3 Col 26 Ch 26 INS

Quick Launch (Ctrl+Q) (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 2 rows

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT S | Execute

SQLQuery4.sql - (lo...83861\labuser (52)* SQLQuery3.sql - (lo...83861\labuser (59)* SQLQuery2.sql - (lo...83861\labuser (58)) SQLQuery1.sql - (lo...83861\labuser (56))

```
SELECT * FROM FACULTY
WHERE STAFF_SALARY BETWEEN 50000 AND 100000
```

100 %

Results Messages

	STAFF_ID	SF_FNAME	SF_LNAME	DESIGNATION	STAFF_DOB	STAFF_DEPT_ID	STAFF_DOJ	STAFF_EXPERIENCE	STAFF_SALARY
1	M1009	KEERTHI	SURESH	PROF	1989-09-02	101	2017-09-04	7.00	60000.00
2	Q10001	JYOTHI	G	LECTURE	1987-01-01	104	2012-07-01	10.00	50000.00
3	T10002	SRINIVAS	MURTHY	PROF	1986-08-07	102	2015-08-05	4.00	100000.00

Query executed successfully.

Ready Ln 3 Col 19 Ch 19 INS

Quick Launch (Ctrl+Q) (local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 3 rows

```
DROP TABLE PLACEMENT_STUDENTS;
```

.00 %

Messages

Commands completed successfully.

Completion time: 2022-04-02T12:50:49.1698396+00:00

SQLQuery4.sql - [local] STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

STUDENT MANAGEMENT S Execute

SQLQuery4.sql - (lo...83861\labuser (52)) SELECT COUNT(ST_ID), ACADEMIC_YEAR
FROM STUDENT_MARKS SM
INNER JOIN SEMESTER S
ON S.SEM_ID=SM.SEM_ID
GROUP BY S.ACADEMIC_YEAR

SQLQuery3.sql - (lo...83861\labuser (59))
SQLQuery2.sql - (lo...83861\labuser (58))
SQLQuery1.sql - (lo...83861\labuser (56))

Results Messages

(No column name)	ACADEMIC_YEAR
1	2004-2005
2	2005-2006
3	2007-2008
4	2008-2009

Query executed successfully. (local) (15.0 RTM) ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 | 4 rows

Ready Ln 5 Col 25 Ch 25 INS

Windows Search File Internet Mail Task View Start 6:31 PM ENG IN 4/3/2022

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT S | Execute

SQLQuery4.sql - (lo...83861\labuser (52)* SQLQuery3.sql - (lo...83861\labuser (59)* SQLQuery2.sql - (lo...83861\labuser (58)) SQLQuery1.sql - (lo...83861\labuser (56))

```
SELECT * FROM STUDENT WHERE ST_ID % 2 =0;
```

100 %

Results Messages

ST_ID	ST_FNAME	ST_LNAME	DOB	JOIN_DATE	ST_DEPT_ID	HOUSE_NAME	STREET_NAME	CITY	ZIPCODE	STAFF_INCHARGE_ID
1 6	BASKAR	REDDY	2001-12-10	2021-08-02	101	MADESHWARA	RRNAGAR	BANGALORE	560002	CS1000
2 8	NAYANA	P	2006-01-05	2017-08-07	101	MENON	SHIVAJINAGAR	TUMUKR	539202	Q10001
3 10	CHAITRA	RAVI	2006-04-02	2019-09-02	104	SAM	NN	MANDYA	50003	Q10001

Query executed successfully.

(local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 3 rows

Ready Ln 1 Col 41 Ch 41 INS

SQLQuery4.sql - (local).STUDENT MANAGEMENT SYSTEM (ML-RefVm-283861\labuser (52)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Diagram

STUDENT MANAGEMENT S | Execute

SQLQuery4.sql - (lo...83861\labuser (52)* SQLQuery3.sql - (lo...83861\labuser (59)* SQLQuery2.sql - (lo...83861\labuser (58)) SQLQuery1.sql - (lo...83861\labuser (56))

```
SELECT S.ST_FNAME, F.SF_FNAME, D.DEPARTMENT_NAME
FROM STUDENT S ,DEPARTMENTS D, FACULTY F
WHERE S.ST_DEPT_ID=F.STAFF_DEPT_ID
AND S.ST_DEPT_ID=D.DEPARTMENT_ID
```

100 %

Results Messages

ST_FNAME	SF_FNAME	DEPT_NAME
1 BASKAR	NAGENDRA	CSE
2 BASKAR	KEERTHI	CSE
3 BHAVANA	PRABHU	ECE
4 NAYANA	NAGENDRA	CSE
5 NAYANA	KEERTHI	CSE
6 VIJYA	SRINIVAS	CIVIL
7 CHAITRA	JYOTHI	BCA

Query executed successfully.

(local) (15.0 RTM) - ML-RefVm-283861\labuse... STUDENT MANAGEMENT SYSTEM 00:00:00 7 rows

Ready Ln 3 Col 19 Ch 19 INS

Assignment 5-Querying the Database using T-SQL

SQLQuery2.sql - (local).master (ML-RefVm-283861\labuser (59)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

master | Execute

Object Explorer

Connect ▾ master

Databases System Databases Database Snapshots SMS STUDENT MANAGEMENT SYSTEM Database Diagrams Tables System Tables FileTables External Tables Graph Tables dbo.COURSE_DETAILS dbo.DEPARTMENTS dbo.FACULTY dbo.PLACEMENT_STUDENTS dbo.RESULT_ANALYSIS dbo.SEMESTER dbo.STUDENT dbo.STUDENT_MARKS Views External Resources Synonyms Programmability Service Broker

SQLQuery2.sql - (lo...83861\labuser (59)) SQLQuery1.sql - (lo...83861\labuser (53))

```
CREATE PROCEDURE [dbo].[findstudent] (@reg_no int,@name varchar output)
AS
BEGIN
SELECT S_FNAME FROM STUDENT
WHERE S_ID=@reg_no;
END
GO
```

100 % Messages Commands completed successfully.

Completion time: 2022-04-04T01:59:47.1456574+00:00

Query executed successfully.

(local) (15.0 RTM) | ML-RefVm-283861\labuse... | master | 00:00:00 | 0 rows

Ready

Ln 7 Col 3 Ch 3 INS

SQLQuery2.sql - (local).master (ML-RefVm-283861\labuser (54)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

master | Execute

Object Explorer

Connect ▾ master

Databases Security Server Objects Replication PolyBase Always On High Availability Management Integration Services Catalogs SQL Server Agent (Agent XPs disabled) XEvent Profiler

SQLQuery2.sql - (lo...83861\labuser (54)) SQLQuery1.sql - (lo...83861\labuser (51))

```
declare @return_value int, @name varchar(1)
exec @return_value = [dbo].[findstudent]
@reg_no =9104,@name =@name output
```

100 % Results Messages S_FNAME

Query executed successfully.

(local) (15.0 RTM) | ML-RefVm-283861\labuse... | master | 00:00:00 | 0 rows

Ready

Ln 3 Col 7 Ch 7 INS

Manageability Manageability

ENG IN 1:59 AM 4/4/2022

Manageability Manageability

ENG IN 2:15 AM 4/4/2022

SQLQuery3.sql - (local).master (ML-RefVm-283861\labuser (63)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q) diagram

master

Object Explorer

SQLQuery3.sql - (lo...83861\labuser (63))

```

CREATE PROCEDURE insertStudent
(@regno int,@fname nvarchar(30),@lname nvarchar(30),
@DOB date ,@DOJ date ,@dPT_ID INT,@vila_name nvarchar(30),
@st_name nvarchar(30),@city nvarchar(20),@pincode int,
@faculty_id nvarchar(50))
AS
begin
IF NOT EXISTS(SELECT 1 FROM STUDENT WHERE s_id =@regno)
insert into STUDENT
(_ID,
S_FNAME,S_Lname,
DOB,JOIN_DATE,
ST_DEPT_ID,HOUSE_NAME,
STREET_NAME,
CITY,
ZIPCODE,
STAFF_INCHARGER_ID)
VALUES
(@regno,@fname ,@lname ,@DOB ,
@DOJ ,@dPT_ID ,@vila_name ,@st_name ,
@city ,@pincode ,@faculty_id)
end.

```

Messages

Commands completed successfully.

Completion time: 2022-04-04T02:28:08.0011413+00:00

100 %

Query executed successfully.

(local) (15.0 RTM) | ML-RefVm-283861\labuse... | master | 00:00:00 | 0 rows

Ready Ln 13 Col 12 Ch 12 INS

Manageability Manageability

DotnetLab - ml-lab-d2954457-b2eb-45ec-b760-05d868306004.eastasia.cloudapp.azure.com:61705 - Remote Desktop Connection

SQLQuery1.sql - (local).SMS (ML-RefVm-283861\labuser (56)) - Microsoft SQL Server Management Studio (Administrator)

Edit View Query Project Tools Window Help

Quick Launch (Ctrl+Q) diagram

SMS

Object Explorer

ML-RefVm-283861.SMS - dbo.FACULTY

SQLQuery2.sql - (lo...83861\labuser (52))

SQLQuery1.sql - (lo...83861\labuser (56))

```

USE SMS SELECT COUNT(JOIN_DATE) FROM STUDENT

```

Results

1	4

Messages

(No column name)

1 4

Query executed successfully.

(local) (15.0 RTM) | ML-RefVm-283861\labuse... | SMS | 00:00:00 | 1 rows

Type here to search

31°C 6:31 PM 4/3/2022

DotnetLab - ml-lab-d2954457-b2eb-45ec-b760-05d868306004.eastasia.cloudapp.azure.com:61705 - Remote Desktop Connection

SQLQuery1.sql - (local)\SMS (ML-RefVm-283861\labuser (56)) - Microsoft SQL Server Management Studio (Administrator)

Edit View Query Project Tools Window Help

Diagram

Object Explorer

ML-RefVm-283861 SMS - dbo.FACULTY SQLQuery2.sql - (lo...83861\labuser (52)) SQLQuery1.sql - (lo...83861\labuser (56))*

```
USE SMS
SELECT * FROM student WHERE S_ID %2=0
```

Results

S_ID	S_FNAME	S_LNAME	DOB	JOIN_DATE	ST_DEPT_ID	HOUSE_NAME	STREET_NAME	CITY	ZIPCODE	STAFF_INCHARGE_ID
1	VERDAN	KUMAR	1999-09-08	2006-09-08	12	NERESHIMA	RRNAGR	MYSORE	500027	1
2	CHEETHAN	KUMAR	2000-01-04	2007-07-07	Click to select the whole column	SWAMYNILAYA	RAJKUMARROAD	MADHUR	500077	7

Query executed successfully.

(local) (15.0 RTM) | ML-RefVm-283861\abuse... | SMS | 00:00:00 | 2 rows

637 PM | 31°C | 4/3/2022

ASSIGNMENT -5 : Querying the database using T-SQL

1.

```
CREATE PROCEDURE findTotalMarks(
    @_id varchar (30)
)
AS
BEGIN
SELECT ST_ID,
(
    COALESCE (COURSE_1MARKS, 0)
    + COALESCE(COURSE_2MARKS, 0)
    + COALESCE(COURSE_3MARKS, 0)
)
TOTAL_MARKS
FROM STUDENT_MARKS
WHERE ST_ID= @_id;
END;
EXEC findTotalMarks @_id = '9101'
```

2.

```
CREATE PROCEDURE [dbo].[findStudent](@reg_no int, @name varchar output)
AS
BEGIN
SELECT ST_FNAME
FROM STUDENTS WHERE ST_ID=@reg_no;
END
GO
```

100 % ▾

Messages Commands completed successfully.

```
DECLARE
@return_value int,
@name varchar(1)
EXEC @return_value = [dbo].[findStudent]
@reg_no = 9104,
@name = @name OUTPUT
```

100 % ▾

Results ▾ Messages

ST_FNAME
ST_FNAME

3.

```
CREATE procedure insertStudents
(@regno int, @FNAME nvarchar(30), @LNAME nvarchar(30), @DOB date, @DOB2 date, @DEPT_ID int, @vila_name nvarchar(30), @st_name nvarchar(30),
@city nvarchar(20), @pincode int, @faculty_id nvarchar(50))
as
begin
IF NOT EXISTS (SELECT 1 FROM STUDENTS WHERE ST_ID = @regno) insert into STUDENTS
(ST_ID,
ST_FNAME,
ST_LNAME,
DOB,
JOIN_DATE,
ST_DEPT_ID,
HOUSE_NAME,
STREET_NAME,
CITY,
ZIPCODE,
STAFF_INCHARGE_ID)
values
(@regno,
@FNAME,
@LNAME,
@NAME,
@DOB,
@DOB2,
@DEPT_ID,
@vila_name,
@st_name,
@city,
@pincode,
@faculty_id)
end;
```

100 % ▾

Results Commands completed successfully.

100 % ▾

Query executed successfully.

ML-RefVm-203861 (15.0 RTM) ML-RefVm-203861\labuser_ School_Bavatharai 00:00:00 0 rows

4.

```
CREATE FUNCTION studentHavingMaxMark()
RETURNS TABLE
AS
RETURN (SELECT SM.ST_ID, S.ST_FNAME, D.DEPT_NAME FROM STUDENT_MARKS SM
INNER JOIN STUDENTS S
ON S.ST_ID=SM.ST_ID
INNER JOIN DEPARTMENT D
ON S.ST_DEPT_ID=D.DEPT_ID
WHERE SM.[PERCENTAGE_MARKS]=(SELECT MAX([PERCENTAGE_MARKS]) FROM STUDENTS_MARKS))
```

100 % ↻ ↺

⌘ Results
Commands completed successfully.

5.

```
CREATE FUNCTION [dbo].[MARKGRADE]
(
@marks INT
)
RETURNS VARCHAR(20)
AS
BEGIN
DECLARE @GRADE VARCHAR(50)
IF @marks > 100
SET @GRADE = 'EXCEPTIONAL'
ELSE
RETURN
CASE
WHEN @marks >= 90 THEN 'S'
WHEN @marks >= 80 THEN 'A'
WHEN @marks >= 70 THEN 'B'
WHEN @marks >= 60 THEN 'C'
WHEN @marks >= 50 THEN 'D'
WHEN @marks < 50 THEN 'U'
ELSE ''
END
RETURN @GRADE
END;
```

100 % ↻ ↺

⌘ Messages
Commands completed successfully.