



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

FACULTY OF SCIENCE & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

INTRODUCTION TO DATABASE

FALL 2022-2023

SECTION: P

PROJECT REPORT ON

SIM MANAGEMENT SYSTEM

UNDER THE GUIDANCE OF

ARGHO DAS

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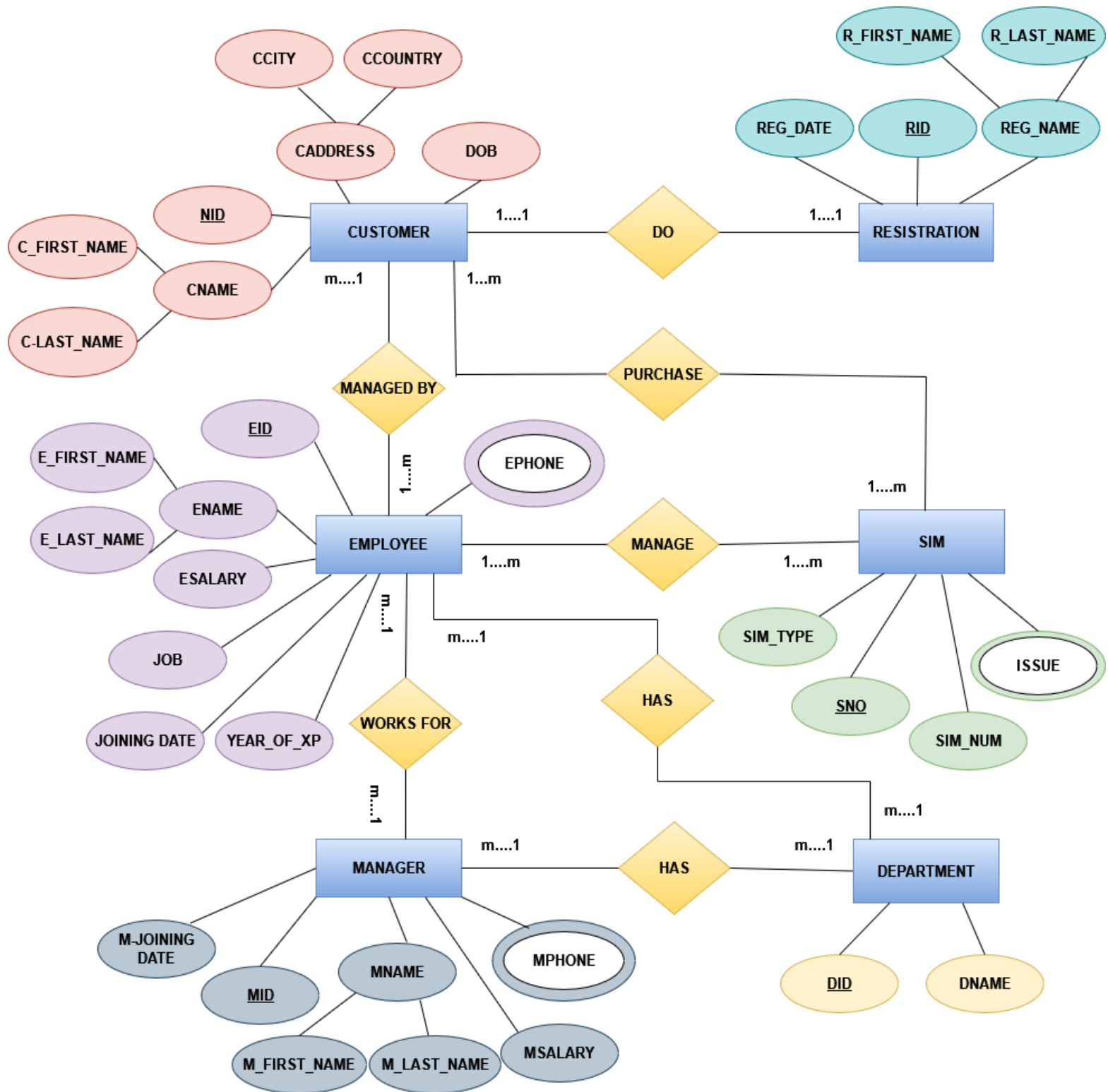
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Introduction

This database project will help SIM management system to enables security personnel to gather, manage, optimize, and use security data to identify threats and vulnerabilities, and take action to protect the organization.

Scenario: The SIM management system allows many customers to register only once. Many customers can register during the registration process. A customer is identified by his/her NID. Customers also have a name, date of birth and address. Customer name includes first and last name and customer address includes city and country. Customers can purchase SIMS. SIMS are identified by serial number. SIMS vary by SIM type, SIM number. SIMS can also have various issues. Customers must do registration. A registration is identified by a registration ID and includes the name of the registered customer and the date of registration. A registered customer name also includes first and last name. All customers are managed by many employees. Employee is identified by employee ID. Employees also have a name, salary, years of experience, hire date, address, and may have multiple phone numbers. An employee's name includes first and last name. All employees will manage everything related to SIMS. Each employee works for a manager identified by a manager ID. Every manager has an address, manager name, salary and can have multiple phone numbers. A manager's name includes first and last name. Every employee and manager have a department. A department has a department ID and a department name.

ER- Diagram



Normalization

Do:

(CUSTOMER and RESISTRATION)

UNF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB, RID, REG_DATE, R_FIRST_NAME, R_LAST_NAME.

1NF:

1ST: NID, RID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB, REG_DATE, R_FIRST_NAME, R_LAST_NAME.

(NO MULTIVALUED ATTRIBUTE)

2NF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB

2ND: RID, REG_DATE, R_FIRST_NAME, R_LAST_NAME.

3RD: NID, RID

3NF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, DOB

2ND: RID, REG_DATE, R_FIRST_NAME, R_LAST_NAME.

3RD: CCITY, CCOUNTRY

4TH: NID, RID

MANAGED BY:

(CUSTOMER AND EMPLOYEE)

UNF: 1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB, EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE

1NF:

1ST: NID, EID, EPHONE, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP

(EPHONE IS A MULTIVALUED ATTRIBUTE)

2NF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB

2ND: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

3RD: EPHONE_ID, EPHONE

4TH: NID, EID

3NF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, DOB

2ND: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

3RD: EPHONE_ID, EPHONE

4TH: NID, EID

5TH: CCITY, CCOUNTRY

PURCHASE:**(CUSTOMER AND SIM)****UNF:**

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB, SNO, SIM_TYPE, SIM_NUM, ISSUE

1NF:

1ST: NID, SNO, ISSUE, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB, SIM_TYPE, SIM_NUM

(ISSUE IS MULTIVALUED ATTRIBUTE)

2NF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, CCOUNTRY, DOB

2ND: SNO, SIM_TYPE, SIM_NUM, ISSUE_ID.

3RD: ISSUE_ID, ISSUE

4TH: NID, SNO

3NF:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, DOB

2ND: SNO, SIM_TYPE, SIM_NUM, ISSUE_ID.

3RD: ISSUE_ID, ISSUE

4TH: CCITY, CCOUNTRY

5TH: NID, SNO

MANAGE:

(EMPLOYEE AND SIM)

UNF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE, SNO, SIM_TYPE, SIM_NUM, ISSUE

1NF:

1ST: EID, SNO, ISSUE, EPHONE, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, SIM_TYPE, SIM_NUM

(ISSUE AND EPHONE ARE MULTIVALUED ATTRIBUTE)

2NF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

2ND: EPHONE_ID, EPHONE

3RD: SNO, SIM_TYPE, SIM_NUM, ISSUE_ID

4TH: ISSUE_ID, ISSUE

5TH: EID, SNO

3NF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

2ND: EPHONE_ID, EPHONE

3RD: SNO, SIM_TYPE, SIM_NUM, ISSUE_ID

4TH: ISSUE_ID, ISSUE

5TH: EID, SNO

WORKS FOR:

(EMPLOYEE AND MANAGER)

UNF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE, MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE

1NF:

1ST: EID, MID, MPHONE, EPHONE, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY

(EPHONE AND MPHONE ARE MULTIVALUED ATTRIBUTE)

2NF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

2ND: EPHONE_ID, EPHONE

3RD: MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE_ID

4TH: MPHONE_ID, MPHONE

4TH: EID, MID

3NF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

2ND: EPHONE_ID, EPHONE

3RD: MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE_ID

4TH: MPHONE_ID, MPHONE

5TH: EID, MID

HAS:

(EMPLOYEE AND DEPARTMENT)

UNF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE, DID, DNAME

1NF:

1ST: EID, DID, EPHONE, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, DNAME

(EPHONE IS A MULTIVALUED ATTRIBUTE)

2NF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

2ND: EPHONE_ID, EPHONE

3RD: DID, DNAME

4TH: EID, DID

3NF:

1ST: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

2ND: EPHONE_ID, EPHONE

3RD: DID, DNAME

4TH: EID, DID

HAS**(MANAGER AND DEPARTMENT)****UNF:**

1ST: MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE, DID, DNAME

1NF:

1ST: MID, DID, MPHONE, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, DNAME

(MPHONE IS A MULTIVALUED ATTRIBUTE)

2NF:

1ST: MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE_ID

2ND: MPHONE_ID, MPHONE

3RD: DID, DNAME

4TH: MID, DID

3NF:

1ST: MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE_ID

2ND: MPHONE_ID, MPHONE

3RD: DID, DNAME

4TH: MID, DID

FINAL TABLE:

1ST: NID, C_FIRST_NAME, C_LAST_NAME, CCITY, DOB

2ND: RID, REG_DATE, R_FIRST_NAME, R_LAST_NAME.

3RD: CCITY, CCOUNTRY

4TH: NID, RID

5TH: EID, E_FIRST_NAME, E_LAST_NAME, ESALARY, JOB, JOINNING_DATE, YEAR_OF_XP, EPHONE_ID

6TH: EPHONE_ID, EPHONE

7TH: NID, EID

8TH: SNO, SIM_TYPE, SIM_NUM, ISSUE_ID.

9TH: NID, SNO

10TH: ISSUE_ID, ISSUE

11TH: EID, SNO

12TH: MID, M_JOINING_DATE, M_FIRST_NAME, M_LAST_NAME, MSALARY, MPHONE_ID

13TH: MPHONE_ID, MPHONE

14TH: EID, MID

15TH: DID, DNAME

16TH: EID, DID

17TH: MID, DID

TABLE CREATION

CUSTOMER:

Home > SQL > SQL Commands

☒ Autocommit Display 10

CREATE TABLE CUSTOMER(NID INT NOT NULL,C_FIRST_NAME CHAR(10),C_LAST_NAME CHAR(10),CCITY CHAR (10),DOB DATE, PRIMARY KEY (NID));

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

Object Type **TABLE** Object **CUSTOMER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER	NID	Number	-	-	0	1	-	-	-
	C_FIRST_NAME	Char	10	-	-	-	✓	-	-
	C_LAST_NAME	Char	10	-	-	-	✓	-	-
	CCITY	Char	10	-	-	-	✓	-	-
	DOB	Date	7	-	-	-	✓	-	-
1 - 5									

REGISTRATION:

Home > SQL > SQL Commands

☒ Autocommit Display 10

CREATE TABLE REGISTRATION(RID INT NOT NULL,REG_DATE DATE, R_FIRST_NAME CHAR(10),R_LAST_NAME CHAR(10), PRIMARY KEY (RID));

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Object Type **TABLE** Object **REGISTRATION**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
REGISTRATION	RID	Number	-	-	0	1	-	-	-
	REG_DATE	Date	7	-	-	-	✓	-	-
	R_FIRST_NAME	Char	10	-	-	-	✓	-	-
	R_LAST_NAME	Char	10	-	-	-	✓	-	-
									1 - 4

ADDRESS:

Home > SQL > **SQL Commands**

☒ Autocommit Display 10 ▼

```
CREATE TABLE ADDRESS (CCITY CHAR(10), CCOUNTRY CHAR(10), PRIMARY KEY(CCITY));
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Object Type **TABLE** Object **ADDRESS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ADDRESS	CCITY	Char	10	-	-	1	-	-	-
	CCOUNTRY	Char	10	-	-	-	✓	-	-
									1 - 2

CUSTOMER_REGISTRATION:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE TABLE CUSTOMER_REGISTRATION(NID INT NOT NULL, RID INT, PRIMARY KEY( NID));
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Object Type **TABLE** Object **CUSTOMER_REGISTRATION**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_REGISTRATION	NID	Number	-	-	0	1	-	-	-
	RID	Number	-	-	0	-	✓	-	-
1 - 2									

EMPLOYEE:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

Save

Run

```
CREATE TABLE EMPLOYEE (EID INT NOT NULL, E_FIRST_NAME CHAR(10), E_LAST_NAME CHAR (10), ESALARY NUMBER(15), JOB CHAR(10), JOINNING_DATE DATE, YEAR_OF_XP NUMBER(10),  
EPHONE_ID INT , PRIMARY KEY(EID));
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Object Type **TABLE** Object **EMPLOYEE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>EMPLOYEE</u>	<u>EID</u>	Number	-	-	0	1	-	-	-
	<u>E_FIRST_NAME</u>	Char	10	-	-	-	✓	-	-
	<u>E_LAST_NAME</u>	Char	10	-	-	-	✓	-	-
	<u>ESALARY</u>	Number	-	15	0	-	✓	-	-
	<u>JOB</u>	Char	10	-	-	-	✓	-	-
	<u>JOINNING_DATE</u>	Date	7	-	-	-	✓	-	-
	<u>YEAR_OF_XP</u>	Number	-	10	0	-	✓	-	-
	<u>EPHONE_ID</u>	Number	-	-	0	-	✓	-	-
									1 - 8

EMP_PHONE:

Home > SQL > SQL Commands

☒ Autocommit
 Display 10

```
CREATE TABLE EMP_PHONE (EPHONE_ID INT NOT NULL , EPHONE NUMBER(11), PRIMARY KEY(EPHONE_ID));
```

[Results](#)
[Explain](#)
[Describe](#)
[Saved SQL](#)
[History](#)

Table created.

0.01 seconds

Object Type **TABLE** Object **EMP_PHONE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>EMP_PHONE</u>	<u>EPHONE_ID</u>	Number	-	-	0	1	-	-	-
	<u>EPHONE</u>	Char	11	-	-	-	✓	-	-
									1 - 2

EMPLOYEE_CUSTOMER:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE TABLE EMPLOYEE_CUSTOMER(NID INT NOT NULL, EID INT, PRIMARY KEY(NID));

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Object Type **TABLE** Object **EMPLOYEE_CUSTOMER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE_CUSTOMER	<u>NID</u>	Number	-	-	0	1	-	-	-
	<u>EID</u>	Number	-	-	0	-	✓	-	-
1 - 2									

SIM:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE TABLE SIM(SNO INT NOT NULL, SIM_TYPE CHAR(8), SIM_NUM CHAR(11), ISSUE_ID INT ,PRIMARY KEY(SNO));

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>SIM_ISSUE</u>	<u>SNO</u>	Number	-	-	0	1	-	-	-
	<u>SIM_TYPE</u>	Char	8	-	-	-	✓	-	-
	<u>SIM_NUM</u>	Char	11	-	-	-	✓	-	-
	<u>ISSUE_ID</u>	Number	-	-	0	-	✓	-	-
									1 - 4

ISSUE:

Home > SQL > **SQL Commands**

☒ Autocommit Display 10

```
CREATE TABLE ISSUE(ISSUE_ID INT NOT NULL,ISSUE CHAR(15), PRIMARY KEY(ISSUE_ID));
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

Table created.

0.01 seconds

Object Type **TABLE** Object **ISSUE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>ISSUE</u>	<u>ISSUE_ID</u>	Number	-	-	0	1	-	-	-
	<u>ISSUE</u>	Char	15	-	-	-	✓	-	-
									1 - 2

CUSTOMER_SIM:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE TABLE CUSTOMER_SIM(NID INT NOT NULL, SNO INT |, PRIMARY KEY (NID));
```

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_SIM_ISSUE	<u>NID</u>	Number	-	-	0	1	-	-	-
	<u>SNO</u>	Number	-	-	0	-	✓	-	-
1 - 2									

EMPLOYEE_SIM:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE TABLE EMPLOYEE_SIM(EID INT NOT NULL, SNO INT , PRIMARY KEY (EID));
```

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE_SIM_ISSUE	EID	Number	-	-	0	1	-	-	-
	SNO	Number	-	-	0	-	✓	-	-
1 - 2									

MANAGER:

Home > SQL > SQL Commands

☒ Autocommit
 Display 10

```
CREATE TABLE MANAGER(MID INT NOT NULL, M_JOINING_DATE DATE , M_FIRST_NAME CHAR(10), M_LAST_NAME CHAR(10), MSALARY NUMBER(10), MPHONE_ID INT , PRIMARY KEY(MID));
```

[Results](#)
[Explain](#)
[Describe](#)
[Saved SQL](#)
[History](#)

Table created.

0.03 seconds

Object Type **TABLE** Object **MANAGER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MANAGER	MID	Number	-	-	0	1	-	-	-
	M_JOINING_DATE	Date	7	-	-	-	✓	-	-
	M_FIRST_NAME	Char	10	-	-	-	✓	-	-
	M_LAST_NAME	Char	10	-	-	-	✓	-	-
	MSALARY	Number	-	10	0	-	✓	-	-
	MPHONE_ID	Number	-	-	0	-	✓	-	-
1 - 6									

MGR_PHONE:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE TABLE MGR_PHONE(MPHONE_ID INT NOT NULL, MPHONE NUMBER(11), PRIMARY KEY(MPHONE_ID));
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Object Type **TABLE** Object **MGR_PHONE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MGR_PHONE	MPHONE_ID	Number	-	-	0	1	-	-	-
	MPHONE	Char	11	-	-	-	✓	-	-
									1 - 2

MANAGER_EMPLOYEE:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE TABLE MANAGER_EMPLOYEE(MID INT NOT NULL, EID INT, PRIMARY KEY(MID));
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Object Type **TABLE** Object **MANAGER_EMPLOYEE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MANAGER_EMPLOYEE	EID	Number	-	-	0	1	-	-	-
	MID	Number	-	-	0	-	✓	-	-
1 - 2									

DEPARTMENT:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE TABLE DEPARTMENT(DID INT NOT NULL, DNAME CHAR (10), PRIMARY KEY(DID));
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Object Type **TABLE** Object **DEPARTMENT**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMENT	DID	Number	-	-	0	1	-	-	-
	DNAME	Char	10	-	-	-	✓	-	-
									1 - 2

EMPLOYEE_DEPARTMENT:

Home > SQL > **SQL Commands**

☒ Autocommit Display 10 ▼

```
CREATE TABLE EMPLOYEE_DEPARTMENT(EID INT NOT NULL,DID INT , PRIMARY KEY(EID));
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Object Type **TABLE** Object **EMPLOYEE_DEPARTMENT**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE_DEPARTMENT	EID	Number	-	-	0	1	-	-	-
	DID	Number	-	-	0	-	✓	-	-
									1 - 2

DEPARTMENT_MANAGER:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE TABLE DEPARTMENT_MANAGER(DID INT NOT NULL,MID INT , PRIMARY KEY(DID));

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Object Type **TABLE** Object **DEPARTMENT_MANAGER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMENT_MANAGER	MID	Number	-	-	0	1	-	-	-
	DID	Number	-	-	0	-	✓	-	-
1 - 2									

SEQUENCE:

1. REGISTRATIONS:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

CREATE SEQUENCE REGISTRATIONS INCREMENT BY 1 START WITH 01 MAXVALUE 100 NOCACHE NOCYCLE;

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

2.EMPLOYEES:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

CREATE SEQUENCE EMPLOYEES INCREMENT BY 1 START WITH 100 MAXVALUE 1000 NOCACHE NOCYCLE;

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

3.EPHONES:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE SEQUENCE EPHONES INCREMENT BY 1 START WITH 500 MAXVALUE 1000 NOCACHE NOCYCLE;|

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

4. ISSUES:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE SEQUENCE ISSUES INCREMENT BY 1 START WITH 2001 MAXVALUE 10000 NOCACHE NOCYCLE;

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

5. MANAGERS:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE SEQUENCE MANAGERS INCREMENT BY 1 START WITH 301 MAXVALUE 1000 NOCACHE NOCYCLE;

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

6. MPHONE_IDS:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE SEQUENCE MPHONE_IDS INCREMENT BY 1 START WITH 701 MAXVALUE 1000 NOCACHE NOCYCLE;

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

7. DEPARTMENTS:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE SEQUENCE DEPARTMENTS INCREMENT BY 1 START WITH 5001 MAXVALUE 10000 NOCACHE NOCYCLE;

Results Explain Describe Saved SQL History

Sequence created.

0.03 seconds

VIEW:

1. SIMPLE VIEW- EMP_VU:

Home > SQL > **SQL Commands**

☒ Autocommit Display 10 ▼

```
CREATE VIEW EMP_VU
AS SELECT EID, E_FIRST_NAME, E_LAST_NAME, JOB, YEAR_OF_XP
FROM EMPLOYEE
WHERE YEAR_OF_XP > 1;
```

Results Explain Describe Saved SQL History

View created.

0.02 seconds

☒ Autocommit Display 10 ▼

```
SELECT * FROM EMP_VU;
```

Results Explain Describe Saved SQL History

EID	E_FIRST_NAME	E_LAST_NAME	JOB	YEAR_OF_XP
102	ISMAIL	HOSSAIN	CLERK	2
103	HASAN	RAJA	ENGINEER	2
104	ARIF	SHOUVO	SERVICE	3
105	FAHAD	HOSSAIN	IT EXPERT	2
107	TAHSAN	KHAN	ENGINEER	2

2. COMPLEX VIEW- CUS_SIM:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▾

CREATE VIEW CUS_SIM
AS
SELECT CUSTOMER.NID,
 CUSTOMER.C_FIRST_NAME,
 CUSTOMER.C_LAST_NAME,
 REGISTRATION.RID,
 REGISTRATION.REG_DATE AS REGISTRATION_DATE
FROM CUSTOMER
INNER JOIN REGISTRATION
ON CUSTOMER.C_FIRST_NAME = REGISTRATION.R_FIRST_NAME

Results Explain Describe Saved SQL History

View created.

0.05 seconds

☒ Autocommit Display 10 ▾

SELECT * FROM CUS_SIM;

Results Explain Describe Saved SQL History

NID	C_FIRST_NAME	C_LAST_NAME	RID	REGISTRATION_DATE
1027364523	SAKIB	HOSSAIN	7	02-DEC-22
1027364524	TANJI	EVAN	8	17-DEC-22
1027364525	TAMA	SAHA	9	12-OCT-22
1027364526	DRUTI	ISLAM	10	01-NOV-20
1027364527	BADHON	NATH JOY	11	19-NOV-22
1027364529	MARIA	NAWAR	12	29-NOV-22
8027364555	SAAD	RAHMAN	13	29-NOV-22
1027364789	SADIA	AFRIN	14	29-NOV-22
1027369089	SABRINA	PRETTY	15	29-NOV-22

TABLES:

1. CUSTOMER:

NID	C_FIRST_NAME	C_LAST_NAME	CCITY	DOB
1027364526	DRUTI	ISLAM	FENI	12-OCT-98
1027364523	SAKIB	HOSSAIN	RAJSHAHI	01-MAY-01
1027364524	TANJI	EVAN	DHAKA	19-JAN-01
1027364525	TAMA	SAHA	TONGI	12-JUN-99
1027364527	BADHON	NATH JOY	RANGPUR	21-NOV-01
1027364529	MARIA	NAWAR	DHAKA	28-MAR-02
8027364555	SAAD	RAHMAN	KHULNA	17-DEC-99
1027364789	SADIA	AFRIN	SYLHET	03-AUG-02
1027369089	SABRINA	PRETTY	RAJSHAHI	10-JUN-02

2. REGISTRATION:

RID	REG_DATE	R_FIRST_NAME	R_LAST_NAME
7	02-DEC-22	SAKIB	HOSSAIN
8	17-DEC-22	TANJI	EVAN
9	12-OCT-22	TAMA	SAHA
10	01-NOV-20	DRUTI	ISLAM
11	19-NOV-22	BADHON	NATH JOY
12	29-NOV-22	MARIA	NAWAR
13	29-NOV-22	SAAD	RAHMAN
14	29-NOV-22	SADIA	AFRIN
15	29-NOV-22	SABRINA	PRETTY

3. ADDRESS:

CCITY	CCOUNTRY
DHAKA	BANGLADESH
RANGPUR	BANGLADESH
RAJSHAHI	BANGLADESH
KHULNA	BANGLADESH
FENI	BANGLADESH
DOHAR	BANGLADESH
TONGI	BANGLADESH
BOGURA	BANGLADESH
PABNA	BANGLADESH
SYLHET	BANGLADESH

4. CUSTOMER_REGISTRATION:

NID	RID
1027364523	7
1027364524	8
1027364525	9
1027364526	10
1027364527	11
1027364529	12
8027364555	13
1027364789	14
1027369089	15

5.EMPLOYEE:

EID	E_FIRST_NAME	E_LAST_NAME	ESALARY	JOB	JOINNING_DATE	YEAR_OF_XP	EPHONE_ID
102	ISMAIL	HOSSAIN	10000	CLERK	01-JAN-09	2	502
103	HASAN	RAJA	70000	ENGINEER	07-MAY-09	2	503
104	ARIF	SHOUVO	12000	SERVICE	04-FEB-07	3	504
105	FAHAD	HOSSAIN	80000	IT EXPERT	17-JUN-11	2	505
106	SAJID	ARNOB	10500	ACCOUNTANT	02-OCT-10	1	506
107	TAHSAN	KHAN	100000	ENGINEER	17-JAN-12	2	507

6. EMP_PHONE:

EPHONE_ID	EPHONE
502	01721537641
503	01767382748
504	01947365124
505	01753746892
506	01987649031
507	01746378903

7. EMPLOYEE_CUSTOMER:

NID	EID
1027364523	102
1027364524	102
1027364525	103
1027364526	104
1027364527	105
1027364529	103
8027364555	105
1027364789	107
1027369089	106

8. SIM:

SNO	SIM_TYPE	SIM_NUM	ISSUE_ID
2004	PREPAID	01721537641	25
2005	PREPAID	01721537771	-
2006	PREPAID	01792537641	26
2007	POSTPAID	01712537642	25
2008	POSTPAID	01714357641	-
2009	PREPAID	01723357641	-
2010	POSTPAID	01799357641	27
2011	PREPAID	01754357649	-
2012	PREPAID	01754357649	27

9. CUSTOMER_SIM:

NID	SNO
1027364523	2004
1027364524	2005
1027364525	2006
1027364526	2007
1027364527	2008
1027364529	2009
1027364789	2010
1027369089	2011
8027364555	2012

10. ISSUE:

ISSUE_ID	ISSUE
25	NETWORK PROBLEM
26	NOT DETECTED
27	REPLACE SIM

11. EMPLOYEE_SIM:

EID	SNO
102	2004
103	2006
104	2007
105	2010
106	-
107	2012

12. MANAGER:

MID	M_JOINING_DATE	M_FIRST_NAME	M_LAST_NAME	MSALARY	MPHONE_ID
301	01-FEB-21	AFROZA	BEGUM	90000	701
302	03-MAR-22	WARDAH	SALEH	100000	702
303	02-MAR-22	ABUL	HOSSAIN	70000	703

13. MGR_PHONE:

MPHONE_ID	MPHONE
702	01956251582
701	01836251528
703	01356251582

14. MANAGER_EMPLOYEE:

EID	MID
102	301
103	301
104	302
105	302
106	301
107	303

15. DEPARTMENT:

DID	DNAME
5001	ACCOUNTS
5002	TECHNICAL
5003	SERVICE

16. EMPLOYEE_DEPARTMENT:

EID	DID
102	5003
103	5002
104	5003
105	5002
106	5001
107	5002

17. DEPARTMENT_MANAGER:

MID	DID
301	5001
302	5002
303	5003

JOINING:

1. EQUIJOIN:

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```
SELECT CUSTOMER.* , CUSTOMER_REGISTRATION.* FROM CUSTOMER, CUSTOMER_REGISTRATION WHERE CUSTOMER.NID = CUSTOMER_REGISTRATION.NID ;
```

Results Explain Describe Saved SQL History

NID	C_FIRST_NAME	C_LAST_NAME	CCITY	DOB	NID	RID
1027364523	SAKIB	HOSSAIN	RAJSHAHI	01-MAY-01	1027364523	7
1027364524	TANJI	EVAN	DHAKA	19-JAN-01	1027364524	8
1027364525	TAMA	SAHA	TONGI	12-JUN-99	1027364525	9
1027364526	DRUTI	ISLAM	FENI	12-OCT-98	1027364526	10
1027364527	BADHON	NATH JOY	RANGPUR	21-NOV-01	1027364527	11
1027364529	MARIA	NAWAR	DHAKA	28-MAR-02	1027364529	12
8027364555	SAAD	RAHMAN	KHULNA	17-DEC-99	8027364555	13
1027364789	SADIA	AFRIN	SYLHET	03-AUG-02	1027364789	14
1027369089	SABRINA	PRETTY	RAJSHAHI	10-JUN-02	1027369089	15

2. NON-EQUIJOIN:

☒ Autocommit Display 10

```
SELECT EMPLOYEE.* , EMP_PHONE.*  
FROM EMPLOYEE, EMP_PHONE  
WHERE  
EMPLOYEE.EMPLOYEE_ID <> EMP_PHONE.EMPLOYEE_ID;
```

Results Explain Describe Saved SQL History

EID	E_FIRST_NAME	E_LAST_NAME	ESALARY	JOB	JOINNING_DATE	YEAR_OF_XP	EPHONE_ID	EPHONE_ID	EPHONE
102	ISMAIL	HOSSAIN	10000	CLERK	01-JAN-09	2	502	503	01767382748
102	ISMAIL	HOSSAIN	10000	CLERK	01-JAN-09	2	502	504	01947365124
102	ISMAIL	HOSSAIN	10000	CLERK	01-JAN-09	2	502	505	01753746892
102	ISMAIL	HOSSAIN	10000	CLERK	01-JAN-09	2	502	506	01987649031
102	ISMAIL	HOSSAIN	10000	CLERK	01-JAN-09	2	502	507	01746378903
103	HASAN	RAJA	70000	ENGINEER	07-MAY-09	2	503	502	01721537641
103	HASAN	RAJA	70000	ENGINEER	07-MAY-09	2	503	504	01947365124
103	HASAN	RAJA	70000	ENGINEER	07-MAY-09	2	503	505	01753746892
103	HASAN	RAJA	70000	ENGINEER	07-MAY-09	2	503	506	01987649031
103	HASAN	RAJA	70000	ENGINEER	07-MAY-09	2	503	507	01746378903

More than 10 rows available. Increase rows selector to view more rows.

3.OUTER JOIN:

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
SELECT SIM.*,EMPLOYEE_SIM.* FROM SIM,EMPLOYEE_SIM  
WHERE SIM.SNO=EMPLOYEE_SIM.SNO(+) ORDER BY SIM.SNO;
```

Results Explain Describe Saved SQL History

SNO	SIM_TYPE	SIM_NUM	ISSUE_ID	EID	SNO
2004	PREPAID	01721537641	25	102	2004
2005	PREPAID	01721537771	-	-	-
2006	PREPAID	01792537641	26	103	2006
2007	POSTPAID	01712537642	25	104	2007
2008	POSTPAID	01714357641	-	-	-
2009	PREPAID	01723357641	-	-	-
2010	POSTPAID	01799357641	27	105	2010
2011	PREPAID	01754357649	-	-	-
2012	PREPAID	01754357649	27	107	2012

CONSTRAINTS:

CHECK:

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☒ Autocommit Display 10 ▾

ALTER TABLE EMPLOYEE
ADD CONSTRAINT CHK_ESALARY CHECK (ESALARY>0); |

Results Explain Describe Saved SQL History

Table altered.

0.18 seconds

DEFAULT:

Home > SQL > SQL Commands

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ALTER TABLE ADDRESS
MODIFY CCOUNTRY DEFAULT 'BANGLADESH';

Results Explain Describe Saved SQL History

Table altered.

0.04 seconds