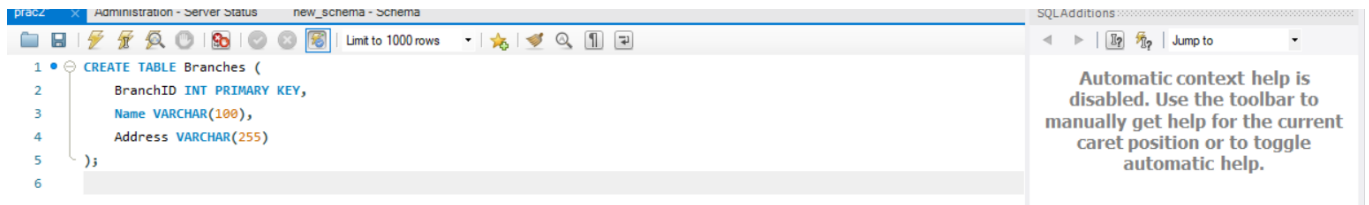


# Final Submission Practical 2

Name. SHIVANSH LOHANI

PRN.24072521141

For Branches:



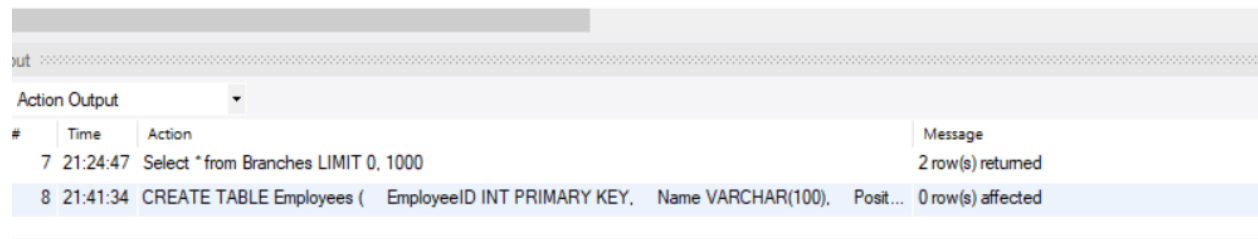
The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the 'new\_schema - Schema' folder. The right pane shows the 'SQLAdditions' tab with the following SQL script:

```
1 CREATE TABLE Branches (  
2     BranchID INT PRIMARY KEY,  
3     Name VARCHAR(100),  
4     Address VARCHAR(255)  
5 );  
6
```

A tooltip on the right side of the window states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

For Employee:

```
5 CREATE TABLE Employees (  
7     EmployeeID INT PRIMARY KEY,  
8     Name VARCHAR(100),  
9     Position VARCHAR(50),  
10    Email VARCHAR(100) UNIQUE,  
11    BranchID INT,  
12    FOREIGN KEY (BranchID) REFERENCES Branches(BranchID)  
13 );
```



The screenshot shows the 'Action Output' window in SQL Server Enterprise Manager. It displays the execution of the 'CREATE TABLE Employees' statement. The table has the following structure:

#	Time	Action	Message
7	21:24:47	Select * from Branches LIMIT 0, 1000	2 row(s) returned
8	21:41:34	CREATE TABLE Employees ( EmployeeID INT PRIMARY KEY, Name VARCHAR(100), Posit...	0 row(s) affected

For Customers:

```

CREATE TABLE Customers (
    CustomerID INT PRIMARY KEY,
    Name VARCHAR(100),
    ContactDetails VARCHAR(100),
    Email VARCHAR(100) UNIQUE,
    BranchID INT,
    FOREIGN KEY (BranchID) REFERENCES Branches(BranchID)
);

```

tion Output

	Time	Action	Message
9	21:47:03	INSERT INTO Employees (EmployeeID, Name, Position, Email, BranchID) VALUES (101, 'Surajit Hal...	3 row(s) affected Records: 3 D
0	21:48:25	CREATE TABLE Customers ( CustomerID INT PRIMARY KEY, Name VARCHAR(100), Conta...	0 row(s) affected

## For Accounts:

```

42
43 CREATE TABLE Accounts (
44     AccountNumber INT PRIMARY KEY,
45     AccountType VARCHAR(50),
46     Balance DECIMAL(15, 2),
47     CustomerID INT,
48     FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)
49 );

```

Output

Action Output

#	Time	Action	Message
11	21:50:44	INSERT INTO Customers (CustomerID, Name, ContactDetails, Email, BranchID) VALUES (201, 'Abc ...	2 row(s) affected Records: 2 Duplicates: 0 Warning
12	21:51:33	CREATE TABLE Accounts ( AccountNumber INT PRIMARY KEY, AccountType VARCHAR(50...	0 row(s) affected

## For Transactions:

```

CREATE TABLE Transactions (
    TransactionID INT PRIMARY KEY,
    AccountNumber INT,
    Amount DECIMAL(15, 2),
    TransactionDate DATE,
    TransactionType VARCHAR(50),
    FOREIGN KEY (AccountNumber) REFERENCES Accounts(AccountNumber),
    CONSTRAINT AccountTransactionKey UNIQUE (AccountNumber, TransactionID)
);

```

ction Output

	Time	Action	Message
13	21:52:34	INSERT INTO Accounts (AccountNumber, AccountType, Balance, CustomerID) VALUES (301, 'Sav...	3 row(s) affected Records: 3 Duplicates:
14	21:53:25	CREATE TABLE Transactions ( TransactionID INT PRIMARY KEY, AccountNumber INT, A...	0 row(s) affected

## 1. Insert Data

## For Branches:

```
8
9
10 • INSERT INTO Branches (BranchID, Name, Address) VALUES
11 (1, 'Sadar', '0017 Ngp MH'),
12 (2, 'Koradi', '0018 Ngp MH');
13
14 • Select * from Branches;
```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
6	21:24:23	INSERT INTO Branches (BranchID, Name, Address) VALUES (1, 'Sadar', '0017 Ngp MH'), (2, 'Koradi', '0018 Ngp MH');	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.000 sec
7	21:24:47	Select * from Branches LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

## For Employees:

```
• INSERT INTO Employees (EmployeeID, Name, Position, Email, BranchID) VALUES
(101, 'Surajit Halder', 'Manager', 'surajit@yahoo.com', 1),
(102, 'Shravan Mune', 'Teller', 'shravan@yahoo.com', 1),
(103, 'Yash Pandey', 'Clerk', 'yash@yahoo.com', 2);
```

Output

Action Output

#	Time	Action	Message
8	21:41:34	CREATE TABLE Employees ( EmployeeID INT PRIMARY KEY, Name VARCHAR(100), Posit...	0 row(s) affected
9	21:47:03	INSERT INTO Employees (EmployeeID, Name, Position, Email, BranchID) VALUES (101, 'Surajit Hal...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0

## For Customers:

```
INSERT INTO Customers (CustomerID, Name, ContactDetails, Email, BranchID) VALUES
(201, 'Abc Roy', '555-1234', 'abc@yahoo.com', 1),
(202, 'Cde Ray', '555-1235', 'cde@yahoo.com', 2);
```

Output

Time	Action	Message
21:48:25	CREATE TABLE Customers ( CustomerID INT PRIMARY KEY, Name VARCHAR(100), Conta...	0 row(s) affected
21:50:44	INSERT INTO Customers (CustomerID, Name, ContactDetails, Email, BranchID) VALUES (201, 'Abc ...	2 row(s) affected Records: 2 Duplicates: 0 Warnings:

## For Accounts:

```

INSERT INTO Accounts (AccountNumber, AccountType, Balance, CustomerID) VALUES
(301, 'Savings', 5000.00, 201),
(302, 'Current', 1500.00, 201),
(303, 'Savings', 7000.00, 202);

```

tion Output

	Time	Action	Message
12	21:51:33	CREATE TABLE Accounts ( AccountNumber INT PRIMARY KEY, AccountType VARCHAR(50...	0 row(s) affected
13	21:52:34	INSERT INTO Accounts (AccountNumber, AccountType, Balance, CustomerID) VALUES (301, 'Sav...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0

## For Tansactions:

```

INSERT INTO Transactions (TransactionID, AccountNumber, Amount, TransactionDate, TransactionType) VALUES
(401, 301, 200.00, '2025-01-01', 'Deposit'),
(402, 302, 50.00, '2025-01-02', 'Withdrawal'),
(403, 303, 1000.00, '2025-01-03', 'Deposit');

```

Action Output

#	Time	Action	Message
14	21:53:25	CREATE TABLE Transactions ( TransactionID INT PRIMARY KEY, AccountNumber INT, A...	0 row(s) affected
15	21:54:28	INSERT INTO Transactions (TransactionID, AccountNumber, Amount, TransactionDate, Transactio...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0

## 2. Update Data

```

UPDATE Accounts
SET Balance = Balance + 200
WHERE AccountNumber = 301;

```

n Output

	Time	Action	Message
	21:54:28	INSERT INTO Transactions (TransactionID, AccountNumber, Amount, TransactionDate, Transactio...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0
	22:15:57	UPDATE Accounts SET Balance = Balance + 200 WHERE AccountNumber = 301	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

```

UPDATE Customers
SET ContactDetails = '555-4321'
WHERE CustomerID = 201;

```

utput

#	Time	Action	Message
16	22:15:57	UPDATE Accounts SET Balance = Balance + 200 WHERE AccountNumber = 301	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
17	22:17:25	UPDATE Customers SET ContactDetails = '555-4321' WHERE CustomerID = 201	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

## For Employee Possition:

```
79 • UPDATE Employees
80 SET Position = 'Senior Manager'
81 WHERE EmployeeID = 101;
```

[Context He](#)

Output

Action Output

#	Time	Action	Message
17	22:17:25	UPDATE Customers SET ContactDetails = '555-4321' WHERE CustomerID = 201	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
18	22:18:24	UPDATE Employees SET Position = 'Senior Manager' WHERE EmployeeID = 101	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0

## Delete Data

```
DELETE FROM Accounts WHERE CustomerID = 201;
```

Context Help Snippets

on Output

Time	Action	Message
22:21:34	DELETE FROM Customers WHERE CustomerID = 201	Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails ('ne
22:22:36	DELETE FROM Accounts WHERE CustomerID = 201	Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails ('ne

- **DELETE FROM Transactions**  
**WHERE TransactionDate < '2025-01-02';**

## 3. Alter Table

```
ALTER TABLE Customers  
ADD DateOfBirth DATE;
```

Context Help Snippets

Output

Time	Action	Message
22:24:42	ALTER TABLE Customers ADD DateOfBirth DATE	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0

- 91 • **ALTER TABLE Accounts**
- 92 **ADD InterestRate DECIMAL(5, 2);**

Context Help Snippets

Output

Action Output

#	Time	Action	Message
23	22:24:45	ALTER TABLE Customers ADD DateOfBirth DATE	Error Code: 1060. Duplicate column name 'DateOfBirth'
24	22:25:20	ALTER TABLE Accounts ADD InterestRate DECIMAL(5, 2)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0

- 94 • **SELECT \* FROM Transactions**
- 95 **WHERE AccountNumber = 301;**

Result Grid

TransactionID	AccountNumber	Amount	TransactionDate	TransactionType
401	301	200.00	2025-01-01	Deposit
NULL	NULL	NULL	NULL	NULL

List all customers for a specific branch.

- 96
- 97 • **SELECT \* FROM Customers**
- 98 **WHERE BranchID = 1;**

Result Grid

CustomerID	Name	ContactDetails	Email	BranchID	DateOfBirth
201	Abc Roy	555-4321	abc@yahoo.com	1	NULL
NULL	NULL	NULL	NULL	NULL	NULL

Find employees managing the highest number of accounts.

```
100 • SELECT e.Name, COUNT(a.AccountNumber) AS ManagedAccounts
101 FROM Employees e
102 JOIN Customers c ON e.BranchID = c.BranchID
103 JOIN Accounts a ON c.CustomerID = a.CustomerID
104 GROUP BY e.Name
105 ORDER BY ManagedAccounts DESC
106 LIMIT 1;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
Name	ManagedAccounts			
Surajit Halder	2			

Calculate the total balance across all accounts for a specific customer.

```
107
108 • SELECT SUM(Balance) AS TotalBalance
109 FROM Accounts
110 WHERE CustomerID = 202;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
TotalBalance			
7000.00			

Administration - Server Status new\_schema - Schema

Limit to 1000 rows

```
1 CREATE TABLE Branches (  
2   BranchID INT PRIMARY KEY,  
3   Name VARCHAR(100),  
4   Address VARCHAR(255)  
5 );  
6
```

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
2	21:18:43	Apply changes to new_schema	Changes applied	
3	21:18:55	CREATE TABLE Branches ( BranchID INT PRIMARY KEY, Name VARCHAR(100), Address ...	Error Code: 1046. No database selected Select the default DB to be used by double-clicking its nam...	0.000 sec
4	21:21:51	CREATE TABLE Branches ( BranchID INT PRIMARY KEY, Name VARCHAR(100), Address ...	0 row(s) affected	0.047 sec

```
7  
8  
9  
10 INSERT INTO Branches (BranchID, Name, Address) VALUES  
11 (1, 'Sadar', '0017 Ngp MH'),  
12 (2, 'Koradi', '0018 Ngp MH');  
13  
14 Select * from Branches;
```

Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
6	21:24:23	INSERT INTO Branches (BranchID, Name, Address) VALUES (1, 'Sadar', '0017 Ngp MH'), (2, 'Korad...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.000 sec
7	21:24:47	Select * from Branches LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec



```

5 • CREATE TABLE Employees (
7     EmployeeID INT PRIMARY KEY,
3     Name VARCHAR(100),
3     Position VARCHAR(50),
3     Email VARCHAR(100) UNIQUE,
1     BranchID INT,
2     FOREIGN KEY (BranchID) REFERENCES Branches(BranchID)
3 );

```

ut

Action Output

#	Time	Action	Message
7	21:24:47	Select * from Branches LIMIT 0, 1000	2 row(s) returned
8	21:41:34	CREATE TABLE Employees ( EmployeeID INT PRIMARY KEY, Name VARCHAR(100), Posit...	0 row(s) affected

```

• INSERT INTO Employees (EmployeeID, Name, Position, Email, BranchID) VALUES
(101, 'Surajit Halder', 'Manager', 'surajit@yahoo.com', 1),
(102, 'Shravan Mune', 'Teller', 'shravan@yahoo.com', 1),
(103, 'Yash Pandey', 'Clerk', 'yash@yahoo.com', 2);

```

ut

Action Output

#	Time	Action	Message
8	21:41:34	CREATE TABLE Employees ( EmployeeID INT PRIMARY KEY, Name VARCHAR(100), Posit...	0 row(s) affected
9	21:47:03	INSERT INTO Employees (EmployeeID, Name, Position, Email, BranchID) VALUES (101, 'Surajit Hal...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0

```

• CREATE TABLE Customers (
    CustomerID INT PRIMARY KEY,
    Name VARCHAR(100),
    ContactDetails VARCHAR(100),
    Email VARCHAR(100) UNIQUE,
    BranchID INT,
    FOREIGN KEY (BranchID) REFERENCES Branches(BranchID)
);

```

tion Output

#	Time	Action	Message
9	21:47:03	INSERT INTO Employees (EmployeeID, Name, Position, Email, BranchID) VALUES (101, 'Surajit Hal...	3 row(s) affected Records: 3 D
10	21:48:25	CREATE TABLE Customers ( CustomerID INT PRIMARY KEY, Name VARCHAR(100), Conta...	0 row(s) affected

```
INSERT INTO Customers (CustomerID, Name, ContactDetails, Email, BranchID) VALUES
```

```
(201, 'Abc Roy', '555-1234', 'abc@yahoo.com', 1),  
(202, 'Cde Ray', '555-1235', 'cde@yahoo.com', 2);
```

Output

Time	Action	Message
21:48:25	CREATE TABLE Customers ( CustomerID INT PRIMARY KEY, Name VARCHAR(100), Conta...	0 row(s) affected
21:50:44	INSERT INTO Customers (CustomerID, Name, ContactDetails, Email, BranchID) VALUES (201, 'Abc ...	2 row(s) affected Records: 2 Duplicates: 0 Warnings:

```
42  
43 • CREATE TABLE Accounts {  
44     AccountNumber INT PRIMARY KEY,  
45     AccountType VARCHAR(50),  
46     Balance DECIMAL(15, 2),  
47     CustomerID INT,  
48     FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)  
49 };
```

Output

#	Time	Action	Message
11	21:50:44	INSERT INTO Customers (CustomerID, Name, ContactDetails, Email, BranchID) VALUES (201, 'Abc ...	2 row(s) affected Records: 2 Duplicates: 0 Warning
12	21:51:33	CREATE TABLE Accounts ( AccountNumber INT PRIMARY KEY, AccountType VARCHAR(50...	0 row(s) affected

```
INSERT INTO Accounts (AccountNumber, AccountType, Balance, CustomerID) VALUES  
(301, 'Savings', 5000.00, 201),  
(302, 'Current', 1500.00, 201),  
(303, 'Savings', 7000.00, 202);
```

tion Output

Time	Action	Message
12 21:51:33	CREATE TABLE Accounts ( AccountNumber INT PRIMARY KEY, AccountType VARCHAR(50...	0 row(s) affected
13 21:52:34	INSERT INTO Accounts (AccountNumber, AccountType, Balance, CustomerID) VALUES (301, 'Sav ...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0

```

CREATE TABLE Transactions (
    TransactionID INT PRIMARY KEY,
    AccountNumber INT,
    Amount DECIMAL(15, 2),
    TransactionDate DATE,
    TransactionType VARCHAR(50),
    FOREIGN KEY (AccountNumber) REFERENCES Accounts(AccountNumber),
    CONSTRAINT AccountTransactionKey UNIQUE (AccountNumber, TransactionID)
);

```

Action Output

	Time	Action	Message
13	21:52:34	INSERT INTO Accounts (AccountNumber, AccountType, Balance, CustomerID) VALUES (301, 'Sav...	3 row(s) affected Records: 3 Duplicates:
14	21:53:25	CREATE TABLE Transactions ( TransactionID INT PRIMARY KEY, AccountNumber INT, A...	0 row(s) affected

```

INSERT INTO Transactions (TransactionID, AccountNumber, Amount, TransactionDate, TransactionType) VALUES
(401, 301, 200.00, '2025-01-01', 'Deposit'),
(402, 302, 50.00, '2025-01-02', 'Withdrawal'),
(403, 303, 1000.00, '2025-01-03', 'Deposit');

```

Action Output

#	Time	Action	Message
14	21:53:25	CREATE TABLE Transactions ( TransactionID INT PRIMARY KEY, AccountNumber INT, A...	0 row(s) affected
15	21:54:28	INSERT INTO Transactions (TransactionID, AccountNumber, Amount, TransactionDate, Transactio...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0