University of Engineering and Technology ,Taxila

Department of Computer Engineering

Lab Report 05

For the Course of DBMS lab

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Section: Omega

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Course Instructor: Engr.Sana Ziafat

Date: 21-02-24.

Course Title: DBMS Lab

Lab Objective:

To know the working of some of the commands of SQL.

Lab Tasks:

1): Consider the following table:

Table : ***Customer***

Column Name	Data Type
First_Name	char(50)
Last_Name	char(50)
Address	char(50)
City	char(50)
Country	char(25)
Birth_Date	datetime

- Write an SQL statement to convert the above table into following table.

Table : ***Customer***

Column Name	Data Type
First_Name	char(50)
Last_Name	char(50)
Address	char(50)
City	char(50)
Country	char(25)
Birth_Date	datetime
Gender	char(1)

- Write SQL statement(s) to change “Birth_Date” to “Age” with data type Integer.
- Create an Index on the “Customer” table using “First_Name” and “Age”

Code:

```sql
USE Lab5;

CREATE TABLE Customer (
    First_Name CHAR(50),
    Last_Name CHAR(50),
    Addresss CHAR(50),
    City CHAR(50),
    Country CHAR(25),
    Birth_Date DATETIME
);

INSERT INTO Customer (First_Name, Last_Name, Addresss, City, Country, Birth_Date)
VALUES
('John', 'Doe', '123 Main St', 'Anytown', 'USA', '1990-05-15'),
('Jane', 'Smith', '456 Elm St', 'Otherville', 'Canada', '1985-10-25'),
('Alice', 'Johnson', '789 Oak St', 'Smalltown', 'UK', '1980-03-12');
```

00 %

Messages

```
(3 rows affected)

Completion time: 2024-02-21T21:37:46.0006098+05:00
```

```sql
ALTER TABLE Customer
ADD Gender CHAR(1);
```

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Messages

```
Commands completed successfully.

Completion time: 2024-02-21T21:45:31.0891409+05:00
```

```sql
UPDATE Customer
SET Gender = 'M'
WHERE First_Name = 'John';

UPDATE Customer
SET Gender = 'F'
WHERE First_Name = 'Jane';


ALTER TABLE Customer
ALTER COLUMN Birth_Date INT;
```

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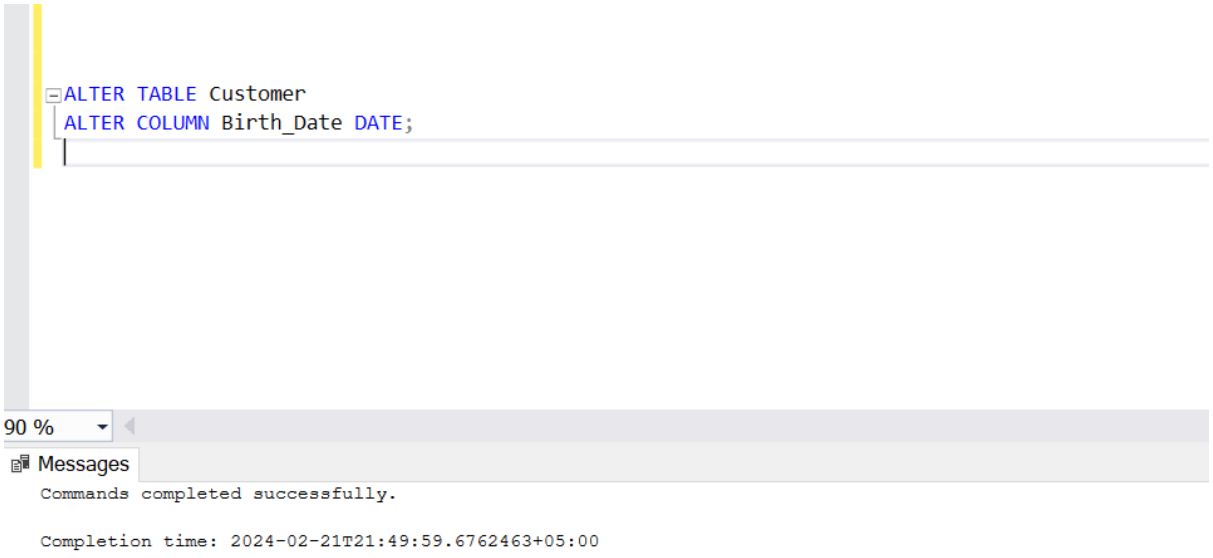
Messages

```
(1 row affected)

(1 row affected)

(1 row affected)
Msg 257, Level 16, State 3, Line 13
Implicit conversion from data type datetime to int is not allowed. Use the CONVERT function to run this que

Completion time: 2024-02-21T21:46:04.5965024+05:00
```




```sql
USE Lab5;

CREATE TABLE Customer (
    First_Name CHAR(50),
    Last_Name CHAR(50),
    Addresss CHAR(50),
    City CHAR(50),
    Country CHAR(25),
    Birth_Date DATETIME
);

INSERT INTO Customer (First_Name, Last_Name, Addresss, City, Country, Birth_Date)
VALUES
('John', 'Doe', '123 Main St', 'Anytown', 'USA', '1990-05-15'),
('Jane', 'Smith', '456 Elm St', 'Otherville', 'Canada', '1985-10-25'),
('Alice', 'Johnson', '789 Oak St', 'Smalltown', 'UK', '1980-03-12');

ALTER TABLE Customer
ADD Gender CHAR(1);

UPDATE Customer
SET Gender = 'M'
WHERE First_Name = 'John';

UPDATE Customer
SET Gender = 'F'
WHERE First_Name = 'Jane';

UPDATE Customer
SET Gender = 'F'
WHERE First_Name = 'Alice';

ALTER TABLE Customer
ALTER COLUMN Birth_Date DATE;
```

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2): Consider the following table "Product":

ProductID	ProductName	SupplierID	CategoryID	Unit	Price
1	Chais	1	1	10 boxes x 20 bags	18
2	Chang	1	1	24 - 12 oz bottles	19
3	Aniseed Syrup	1	2	12 - 550 ml bottles	10
4	Chef Anton's Cajun Seasoning	1	2	48 - 6 oz jars	22
5	Chef Anton's Gumbo Mix	1	2	36 boxes	21.35

- Write an SQL statement to delete the **"ProductName"** entries from the table.

CODE:

```
CREATE TABLE Product (
    ProductID INT,
    ProductName VARCHAR(50),
    SupplierID INT,
    CategoryID INT,
    Unit VARCHAR(50),
    Price DECIMAL(10, 2)
);

INSERT INTO Product (ProductID, ProductName, SupplierID, CategoryID, Unit, Price)
VALUES
(1, 'Chais', 1, 1, '10 boxes x 20 bags', 18.00),
(2, 'Chang', 1, 1, '24- 12 oz bottles', 19.00),
(3, 'Aniseed Syrup', 1, 2, '12-550 ml bottles', 10.00),
(4, 'Chef Anton''s Cajun Seasoning', 2, 5, '48-6 oz jars', 22.00),
(5, 'Chef Anton''s Gumbo Mix', 2, 5, '36 boxes', 21.35);
```

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Messages

```
(5 rows affected)

Completion time: 2024-02-21T21:59:12.8186071+05:00
```

```
ALTER TABLE Product
Add ProductName varchar(50);
ALTER TABLE Product
DROP COLUMN ProductName;

select * from Product
```

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Results | Messages

	ProductID	SupplierID	CategoryID	Unit	Price
1	1	1	1	10 boxes x 20 bags	18.00
2	2	1	1	24- 12 oz bottles	19.00
3	3	1	2	12-550 ml bottles	10.00
4	4	2	5	48-6 oz jars	22.00
5	5	2	5	36 boxes	21.35

3): Consider the following tables:

Student

Student_ID	**Student_Name**
38214	Ali
54907	Ahsan
66324	Bilal
70542	Naeem

Create the above table by keeping their first columns as primary key. After the creation of the table, solve the following:

- Write a query to add an attribute, Class to the Student table
- Write a query to change the field for Student_Name from 25 characters to 40 characters
- Write a query to add another column in the Student table with an auto increment field
- Write a query to add another column Department in the Student table. The column must not contain any value other than the values COMPUTER or SOFTWARE
- Write a query to change the auto increment field to start from 50
- Write a query to remove the Student table

CODE

Creation of table

```
use Lab5

CREATE TABLE Student (
    Student_ID INT PRIMARY KEY,
    Student_Name VARCHAR(25)
);
```

```
INSERT INTO Student (Student_ID, Student_Name)
VALUES
(38214, 'Ali' ),
(54907, 'Ahsan'),
(66324, 'Bilal'),
(70542, 'Naeem');
```

```
select * from Student
```

```
INSERT INTO Student (Student_ID, Student_Name)
VALUES
(38214, 'Ali' ),
(54907, 'Ahsan'),
(66324, 'Bilal'),
(70542, 'Naeem');

select * from Student
```

) %

Results | Messages

	Student_ID	Student_Name
1	38214	Ali
2	54907	Ahsan
3	66324	Bilal
4	70542	Naeem

Addition of class

```
ALTER TABLE Student
ADD Class VARCHAR(20);

select * from Student
```

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Results | Messages

	Student_ID	Student_Name	Class
1	38214	Ali	NULL
2	54907	Ahsan	NULL
3	66324	Bilal	NULL
4	70542	Naeem	NULL

```
ALTER TABLE Student
ALTER COLUMN Student_Name VARCHAR(40);
```

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Messages

```
Commands completed successfully.

Completion time: 2024-02-21T22:15:01.7595252+05:00
```

Changing of data type

```
ALTER TABLE Student
ALTER COLUMN Student_Name VARCHAR(40);
select * from Student
```

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Results | Messages

	Student_ID	Student_Name	Class
1	38214	Ali	NULL
2	54907	Ahsan	NULL
3	66324	Bilal	NULL
4	70542	Naeem	NULL

Adding and incrementor identity

```
ALTER TABLE Student
ADD Student_AutoIncrement INT IDENTITY(1,1);
select * from Student
```

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Results | Messages

	Student_ID	Student_Name	Class	Student_AutoIncrement
1	38214	Ali	NULL	1
2	54907	Ahsan	NULL	2
3	66324	Bilal	NULL	3
4	70542	Naeem	NULL	4

```
ALTER TABLE Student
ADD Department VARCHAR(10) CHECK (Department IN ('COMPUTER', 'SOFTWARE'));
select * from Student
```

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Results | Messages

	Student_ID	Student_Name	Class	Student_AutoIncrement	Department
1	38214	Ali	NULL	1	NULL
2	54907	Ahsan	NULL	2	NULL
3	66324	Bilal	NULL	3	NULL
4	70542	Naeem	NULL	4	NULL

```
DBCC CHECKIDENT ('Student', RESEED, 49);
select * from Student
```

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Results | Messages

	Student_ID	Student_Name	Class	Student_AutoIncrement	Department
1	38214	Ali	NULL	1	NULL
2	54907	Ahsan	NULL	2	NULL
3	66324	Bilal	NULL	3	NULL
4	70542	Naeem	NULL	4	NULL

```
DROP TABLE Student;
```

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Messages

```
Msg 3701, Level 11, State 5, Line 1
Cannot drop the table 'Student', because it does not exist or you do not have permission.

Completion time: 2024-02-21T22:18:59.1740501+05:00
```