



BICT.Honours in Information & Communication Technology

ICT1222 (P) Database Management Systems Practicum

Level 1- Semester 2 | 2022

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Practical 3

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Practical 3

Student No: TG/2020/749

Student Name: H.P.G. Lahiru Prasad Jayathilake

1)

```
mysql> CREATE DATABASE Practical03;  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> SHOW DATABASES;  
+-----+  
| Database  
+-----+  
| information_schema  
| lahiru01  
| mysql  
| performance_schema  
| practical03  
| sakila  
| sys  
| tg749  
| world  
+-----+  
9 rows in set (0.01 sec)
```

```
mysql> USE Practical03;  
Database changed  
mysql>
```

```
mysql> CREATE TABLE City(  
-> City_ID VARCHAR(10) NOT NULL PRIMARY KEY,  
-> City_Name VARCHAR(30),  
-> Region_ID VARCHAR(10) NOT NULL  
-> );  
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> DESCRIBE City;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| City_ID    | varchar(10)   | NO   | PRI | NULL    |       |  
| City_Name  | varchar(30)   | YES  |     | NULL    |       |  
| Region_ID  | varchar(10)   | NO   |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

2)

```
mysql> CREATE TABLE City(  
-> City_ID VARCHAR(10) NOT NULL PRIMARY KEY,  
-> City_Name VARCHAR(30),  
-> Region_ID VARCHAR(10) NOT NULL  
-> );  
ERROR 1050 (42S01): Table 'city' already exists  
mysql> _
```

3)

```
mysql> CREATE TABLE City(  
-> City_ID VARCHAR(10) NOT NULL PRIMARY KEY,  
-> City_Name VARCHAR(30),  
-> Region_ID VARCHAR(10) NOT NULL  
-> );  
ERROR 1050 (42S01): Table 'city' already exists  
mysql> _
```

4)

```
mysql> CREATE TABLE Jobs(  
-> Job_ID VARCHAR(10) NOT NULL PRIMARY KEY,  
-> Job_title VARCHAR(50),  
-> Min_Salary DECIMAL(6,0),  
-> Max_Salary DECIMAL(6,0),  
-> CHECK (Max_Salary>25000)  
-> );  
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> DESCRIBE Jobs;
```

Field	Type	Null	Key	Default	Extra
Job_ID	varchar(10)	NO	PRI	NULL	
Job_title	varchar(50)	YES		NULL	
Min_Salary	decimal(6,0)	YES		NULL	
Max_Salary	decimal(6,0)	YES		NULL	

```
4 rows in set (0.01 sec)
```

5)

```
mysql> ALTER TABLE City
-> MODIFY City_Name ENUM ("Colombo","Galle","Matara");
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> DESCRIBE City;
```

Field	Type	Null	Key	Default	Extra
City_ID	varchar(10)	NO	PRI	NULL	
City_Name	enum('Colombo','Galle','Matara')	YES		NULL	
Region_ID	varchar(10)	NO		NULL	

3 rows in set (0.00 sec)

6)

```
mysql> CREATE TABLE Job_History(
-> Employee_ID VARCHAR(20) NOT NULL PRIMARY KEY,
-> Start_Date DATE,
-> End_Date DATE,
-> CHECK(Start_Date LIKE '--/--/----'),
-> Job_ID VARCHAR(10) NOT NULL,
-> Department_ID VARCHAR(10) NOT NULL
-> );
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> DESCRIBE Job_History;
```

Field	Type	Null	Key	Default	Extra
Employee_ID	varchar(20)	NO	PRI	NULL	
Start_Date	date	YES		NULL	
End_Date	date	YES		NULL	
Job_ID	varchar(10)	NO		NULL	
Department_ID	varchar(10)	NO		NULL	

5 rows in set (0.00 sec)

7)

```
mysql> ALTER TABLE City
-> ADD UNIQUE (City_ID);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> DESCRIBE City;
```

Field	Type	Null	Key	Default	Extra
City_ID	varchar(10)	NO	PRI	NULL	
City_Name	enum('Colombo','Galle','Matara')	YES		NULL	
Region_ID	varchar(10)	NO		NULL	

3 rows in set (0.00 sec)

8)

```
mysql> CREATE TABLE IF NOT EXISTS Jobs(
-> Job_ID VARCHAR(10) NOT NULL PRIMARY KEY,
-> Job_title VARCHAR(50) NOT NULL DEFAULT '',
-> Min_Salary DECIMAL(6,0) DEFAULT 8000,
-> Max_Salary DECIMAL(6,0) DEFAULT NULL,
-> UNIQUE(Job_ID)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> DESCRIBE Jobs;
```

Field	Type	Null	Key	Default	Extra
Job_ID	varchar(10)	NO	PRI	NULL	
Job_title	varchar(50)	NO			
Min_Salary	decimal(6,0)	YES		8000	
Max_Salary	decimal(6,0)	YES		NULL	

4 rows in set (0.00 sec)

9)

```
mysql> CREATE TABLE City(
-> City_ID VARCHAR(10) NOT NULL PRIMARY KEY,
-> City_Name VARCHAR(30) NOT NULL,
-> Region_ID VARCHAR(10) NOT NULL,
-> UNIQUE(City_ID)
-> );
Query OK, 0 rows affected (0.02 sec)

mysql> DESCRIBE City;
```

Field	Type	Null	Key	Default	Extra
City_ID	varchar(10)	NO	PRI	NULL	
City_Name	varchar(30)	NO		NULL	
Region_ID	varchar(10)	NO		NULL	

3 rows in set (0.00 sec)

10)

```
mysql> CREATE TABLE Countries(  
-> City_ID VARCHAR(10) NOT NULL PRIMARY KEY,  
-> City_Name VARCHAR(30) NOT NULL,  
-> Region_ID VARCHAR(10) NOT NULL,  
-> UNIQUE(City_ID, Region_ID)  
-> );
```

Query OK, 0 rows affected (0.01 sec)

```
mysql> DESCRIBE Countries;
```

Field	Type	Null	Key	Default	Extra
City_ID	varchar(10)	NO	PRI	NULL	
City_Name	varchar(30)	NO		NULL	
Region_ID	varchar(10)	NO		NULL	

3 rows in set (0.00 sec)

11)

```
mysql> CREATE TABLE Job_History(  
-> Employee_ID VARCHAR(10) NOT NULL PRIMARY KEY,  
-> Start_Date DATETIME,  
-> End_Date DATETIME,  
-> Job_ID VARCHAR(10) NOT NULL,  
-> FOREIGN KEY (Job_ID) REFERENCES Jobs(Job_ID)  
-> );
```

Query OK, 0 rows affected (0.02 sec)

```
mysql> DESCRIBE Job_History;
```

Field	Type	Null	Key	Default	Extra
Employee_ID	varchar(10)	NO	PRI	NULL	
Start_Date	datetime	YES		NULL	
End_Date	datetime	YES		NULL	
Job_ID	varchar(10)	NO	MUL	NULL	

4 rows in set (0.00 sec)

```

mysql>
mysql> CREATE TABLE Departments(
-> Department_ID DECIMAL(4,0) NOT NULL PRIMARY KEY,
-> Department_Name VARCHAR(30) NOT NULL,
-> Manager_ID DECIMAL(6,0),
-> Location_ID DECIMAL(4,0),
-> FOREIGN KEY (Manager_ID) REFERENCES Managers(Manager_ID),
-> UNIQUE(Department_ID)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql>
mysql> CREATE TABLE Empolyees(
-> Employee_ID VARCHAR(10) NOT NULL PRIMARY KEY,
-> First_Name VARCHAR(20),
-> Last_Name VARCHAR(20),
-> Email VARCHAR(60),
-> Phone_Number INT,
-> Hire_Date DATETIME,
-> Job_ID VARCHAR(10) NOT NULL,
-> Salary INT,
-> Commission INT,
-> Manager_ID DECIMAL(6,0),
-> Department_ID DECIMAL(4,0),
-> UNIQUE(Employee_ID),
-> FOREIGN KEY (Manager_ID) REFERENCES Managers(Manager_ID),
-> FOREIGN KEY (Department_ID) REFERENCES Departments(Department_ID)
-> );
Query OK, 0 rows affected (0.03 sec)

mysql> SHOW TABLE Empolyees;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual
mysql> DESCRIBE Empolyees;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Employee_ID | varchar(10) | NO | PRI | NULL |
| First_Name | varchar(20) | YES | | NULL |
| Last_Name | varchar(20) | YES | | NULL |
| Email | varchar(60) | YES | | NULL |
| Phone_Number | int | YES | | NULL |
| Hire_Date | datetime | YES | | NULL |
| Job_ID | varchar(10) | NO | | NULL |
| Salary | int | YES | | NULL |
| Commission | int | YES | | NULL |
| Manager_ID | decimal(6,0) | YES | MUL | NULL |
| Department_ID | decimal(4,0) | YES | MUL | NULL |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.01 sec)

```

13)

```
mysql> CREATE TABLE EmployeeInfo(
-> EmpID INT AUTO_INCREMENT NOT NULL PRIMARY KEY,
-> EmpFname VARCHAR(30) NOT NULL,
-> EmpLname VARCHAR(30) NOT NULL,
-> Department VARCHAR(30) NOT NULL,
-> Project VARCHAR(10) NOT NULL,
-> Address VARCHAR(50) NOT NULL,
-> DOB DATE NOT NULL,
-> Gender VARCHAR(10) NOT NULL,
-> UNIQUE(EmpID)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql>
mysql> INSERT INTO EmployeeInfo
-> (EmpFname,EmpLname,Department,Project,Address,DOB,Gender)
-> VALUES
-> ("Sanjay","Mehra","HR","P1","Hyderabad (HYD)","1976/12/01","M"),
-> ("Ananya","Mishra","Admin","P2","Delhi (DEL)","1968/05/02","F"),
-> ("Rohan","Diwan","Account","P3","Mumbaz (BOM)","1980/01/01","M"),
-> ("Sonia","Kulkarni","HR","P1","Hyderabad (HYD)","1992/05/02","F"),
-> ("Ankit","Kapoor","Admin","P2","Delhi (DEL)","1994/07/03","M");
Query OK, 5 rows affected, 5 warnings (0.00 sec)
Records: 5 Duplicates: 0 Warnings: 5

mysql> SELECT * FROM EmployeeInfo;
```

EmpID	EmpFname	EmpLname	Department	Project	Address	DOB	Gender
1	Sanjay	Mehra	HR	P1	Hyderabad (HYD)	1976-12-01	M
2	Ananya	Mishra	Admin	P2	Delhi (DEL)	1968-05-02	F
3	Rohan	Diwan	Account	P3	Mumbaz (BOM)	1980-01-01	M
4	Sonia	Kulkarni	HR	P1	Hyderabad (HYD)	1992-05-02	F
5	Ankit	Kapoor	Admin	P2	Delhi (DEL)	1994-07-03	M

```
5 rows in set (0.01 sec)
```

14)

```
mysql> SELECT EmpFname
-> FROM EmployeeInfo;
```

EmpFname
Sanjay
Ananya
Rohan
Sonia
Ankit

```
5 rows in set (0.00 sec)
```


15)

```
mysql>
mysql> SELECT CURDATE();
+-----+
| CURDATE() |
+-----+
| 2022-08-31 |
+-----+
1 row in set (0.01 sec)
```

16)

```
mysql>
mysql> SELECT SUBSTRING(EmpLname, 1, 4) AS ExtractString
-> FROM EmployeeInfo;
+-----+
| ExtractString |
+-----+
| Mehr          |
| Mish          |
| Diwa          |
| Kulk          |
| Kapo          |
+-----+
5 rows in set (0.00 sec)
```

17)

```
mysql> SELECT MID(Address,1,LOCATE(' ',Address)) FROM EmployeeInfo;
+-----+
| MID(Address,1,LOCATE(' ',Address)) |
+-----+
| Hyderabad |
| Delhi     |
| Mumbaz    |
| Hyderabad |
| Delhi     |
+-----+
5 rows in set (0.00 sec)
```

18)

```
mysql> SELECT EmpFname
-> FROM EmployeeInfo
-> WHERE EmpFname LIKE "S%";
+-----+
| EmpFname |
+-----+
| Sanjay   |
| Sonia    |
+-----+
```

19)

```
mysql> SELECT *
-> FROM EmployeeInfo
-> ORDER BY EmpLname DESC , Department ASC ;
```

EmpID	EmpFname	EmpLname	Department	Project	Address	DOB	Gender
2	Ananya	Mishra	Admin	P2	Delhi (DEL)	1968-05-02	F
1	Sanjay	Mehra	HR	P1	Hyderabad (HYD)	1976-12-01	M
4	Sonia	Kulkarni	HR	P1	Hyderabad (HYD)	1992-05-02	F
5	Ankit	Kapoor	Admin	P2	Delhi (DEL)	1994-07-03	M
3	Rohan	Diwan	Account	P3	Mumbai (BOM)	1980-01-01	M

5 rows in set (0.00 sec)

20)

```
mysql> SELECT SUBSTRING(EmpLname, 1, 5) AS ExtractString
-> FROM EmployeeInfo
-> WHERE EmpLname LIKE "%A";
```

ExtractString
Mehra
Mishr

2 rows in set (0.00 sec)

21)

```
mysql> SELECT *
-> FROM EmployeeInfo
-> WHERE EmpFname NOT IN ("Sanjay", "Sonia");
```

EmpID	EmpFname	EmpLname	Department	Project	Address	DOB	Gender
2	Ananya	Mishra	Admin	P2	Delhi (DEL)	1968-05-02	F
3	Rohan	Diwan	Account	P3	Mumbai (BOM)	1980-01-01	M
5	Ankit	Kapoor	Admin	P2	Delhi (DEL)	1994-07-03	M

3 rows in set (0.00 sec)

22)

```
mysql> SELECT *
-> FROM EmployeeInfo
-> WHERE Address LIKE "Delhi (DEL)";
```

EmpID	EmpFname	EmpLname	Department	Project	Address	DOB	Gender
2	Ananya	Mishra	Admin	P2	Delhi (DEL)	1968-05-02	F
5	Ankit	Kapoor	Admin	P2	Delhi (DEL)	1994-07-03	M

2 rows in set (0.00 sec)

```
mysql> SELECT COUNT(*),
-> Gender FROM EmployeeInfo
-> WHERE DOB BETWEEN '1970/05/02' AND '1975/12/31'
-> GROUP BY Gender;
Empty set, 10 warnings (0.00 sec)

mysql> SELECT COUNT(*),
-> Gender FROM EmployeeInfo
-> WHERE DOB BETWEEN '1970/05/02' AND '1994/12/31';
+-----+-----+
| COUNT(*) | Gender |
+-----+-----+
|          4 | M      |
+-----+-----+
1 row in set, 10 warnings (0.00 sec)
```