



ΠΑΝΕΠΙΣΤΗΜΙΟ
ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
UNIVERSITY OF WEST ATTICA

DEPARTMENT OF INFORMATION AND COMPUTER ENGINEERING

2nd LABORATORY EXERCISE

STRUCTURE CONFIGURATION , CONSTRAINTS

WORK DETAILS

LABORATORY DEPARTMENT: [06] WEDNESDAY 13:00-14:00

LABORATORY RESPONSIBILITY : GAROFALAKI RANIA

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DATA BASES II

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DATA BASES II

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DB personnel

personnel.sql

```
drop database if exists personnel?
```

```
create database personnel?
```

```
use personnel?
```

```
create table
```

```
DEPT (
```

```
DEPTNO numeric( 2),
```

```
DNAME varchar( 24 ),
```

```
LOC char( 23)
```

```
);
```

```
insert into
```

```
DEPT
```

```
(DEPTNO, DNAME, LOC)
```

```
values
```

```
(50, 'SALES', 'ATHENS'),
```

```
(60, 'ACCOUNTING', 'ATHENS'),
```

```
(70, 'PAYROL', 'VOLOS');
```

```
create table
```

```
JOB(
```

```
JOB_CODE numeric( 3),
```

```
JOB_DESCR varchar( 24 ),
```

```
SAL numeric( 10.2)
```

```
);
```

DATA BASES II

```
insert into  
JOB  
(JOB_CODE, JOB_DESCR, SAL)  
values  
(100, 'SALESMAN', 2000),  
(200, 'ANALYST', 2000),  
(300, 'DBA', 3000);
```

```
create table  
EMP(  
EMPNO numeric( 4),  
NAME varchar( 255 ),  
JOBNO numeric( 3),  
DEPTNO numeric( 2),  
COMM numeric( 10,2)  
);
```

```
insert into  
EMP  
(EMPNO, NAME, JOBNO, DEPTNO, COMM)  
values  
(10, 'Codd', 100, 50, NULL),  
(20, 'Navathe', 200, 50, 450 ),  
(30, 'Elmasri', 300, 60, NULL),  
(40, 'Date', 100, 50, NULL);
```

DATA BASES II

personnel.png

Στήλες	Τύπος δεδομένων
DEPT.DEPTNO, EMP.DEPTNO	numeric(2)
DNAME, JOB_DESCR	varchar(24)
LOC	char(23)
JOBCODE, JOBNO	numeric(3)
SAL, COMM	numeric(10,2)
EMPNO	numeric(4)
PROJECT.P_ID	int
PROJECT.P_NAME	varchar(255)

Πίνακας 1. Τύποι δεδομένων πινάκων EMP, JOB, DEPT

EMP

EMPNO	NAME	JOBNO	DEPTNO	COMM
10	CODD	100	50	
20	NAVATHE	200	50	450
30	ELMASRI	300	60	
40	DATE	100	50	

JOB

JOBCODE	JOB_DESCR	SAL
100	SALESMAN	2000
200	ANALYST	2000
300	DBA	3000

DEPT

DEPTNO	DNAME	LOC
50	SALES	ATHENS
60	ACCOUNTING	ATHENS
70	PAYROL	VOLOS

Εικόνα 1. Δεδομένα πινάκων EMP, JOB, DEPT

Activities

1. Connect to your system's MySQL using any of the above methods you wish

1.1. Statement

```
"C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
```

Enter password: *****

1.2. Result

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 8

DATA BASES II

Server version: 8.0.35 MySQL Community Server - GPL

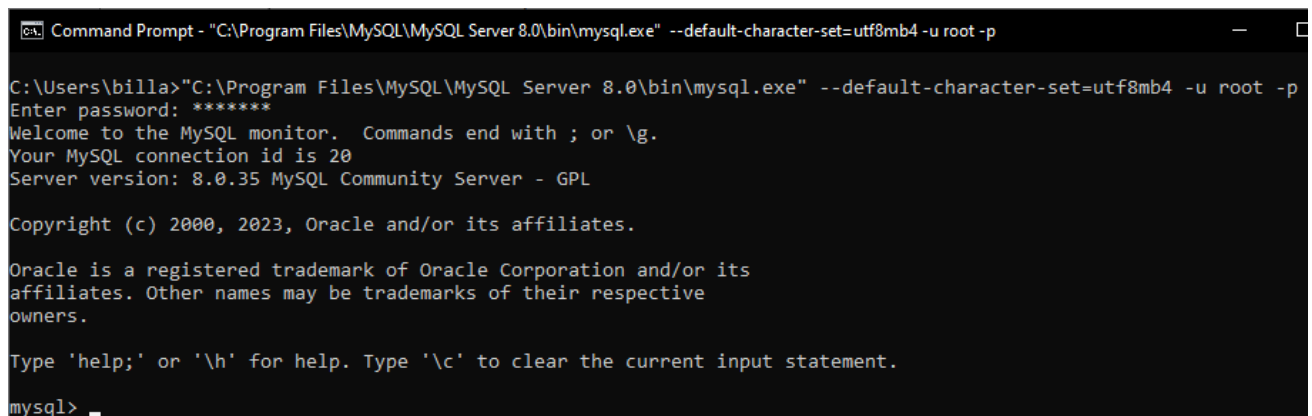
Copyright (c) 2000, 2023, Oracle and/or its affiliates.

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Type 'help?' or '\h' for help. Type '\c' to clear the current input statement.

mysql >

1.3. Snapshot



```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p

C:\Users\billa>"C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 20
Server version: 8.0.35 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> _
```

2. Check if there is a DB with the name personnel . If it doesn't exist, create it

2.1. Statement

show databases?

...

drop database if exists personnel?

...

create database personnel?

DATA BASES II

2.2. Result

```
+-----+
```

```
| Database |
```

```
+-----+
```

```
| cinema |
```

```
| information_schema |
```

```
| mysql |
```

```
| performance_schema |
```

```
| personnel |
```

```
| sys |
```

```
+-----+
```

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

```
...
```

```
Query OK, 3 rows affected (0.04 sec)
```

```
...
```

```
Query OK, 1 row affected (0.00 sec)
```

2.3. Snapshot

DATA BASES II

```
C:\Program Files\MySQL\My
mysql> show databases;
+-----+
| Database |
+-----+
| cinema   |
| information_schema |
| mysql     |
| performance_schema |
| personnel |
| sys      |
+-----+
6 rows in set (0.00 sec)

mysql> drop database if exists personnel;
Query OK, 3 rows affected (0.04 sec)

mysql> create database personnel;
Query OK, 1 row affected (0.00 sec)

mysql> _
```

3. Select the DB personnel to use

3.1. Statement

use personnel?

3.2. Result

Database changed

3.3. Snapshot

```
C:\Pro
mysql> use personnel;
Database changed
mysql> _
```

4. Ensure that personnel has no contained tables. If it has, delete them

4.1 . Statement

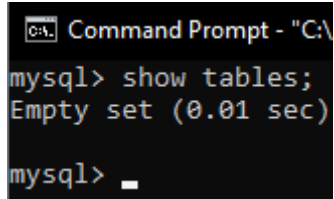
DATA BASES II

```
show tables ;
```

4.2. Result

Empty set (0.01 sec)

4.3. Snapshot



```
C:\> Command Prompt - "C:\>  
mysql> show tables;  
Empty set (0.01 sec)  
mysql> _
```

5. Create the DEPT , JOB and EMP tables without adding keys.

5.1. Statement

DEPT

```
create table  
    DEPT (  
DEPTNO numeric( 2),  
DNAME varchar( 24 ),  
LOC char( 23)  
);  
...  
describe DEPT?
```

JOB

```
create table  
    JOB(  
JOBCODE numeric( 3),
```

DATA BASES II

```
JOB_DESCR varchar( 24 ),
SAL numeric( 10.2)
);
...
describe JOB?
```

EMP

```
create table
    EMP(
EMPNO numeric( 4),
NAME varchar( 255 ),
JOBNO numeric( 3),
DEPTNO numeric( 2),
COMM numeric( 10,2)
);
...
describe EMP?
```

5.2. Result

DEPT

Query OK, 0 rows affected (0.01 sec)

...

```
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO | decimal( 2,0 ) | YES | | NULL | |
| DNAME | varchar(24) | YES | | NULL | |
```

DATA BASES II

```
| LOC | char( 23 ) | YES | | NULL | |
```

```
+-----+-----+-----+-----+-----+-----+-----+
```

3 rows in set (0.00 sec)

JOB

Query OK, 0 rows affected (0.01 sec)

...

```
+-----+-----+-----+-----+-----+-----+-----+
```

```
| Field | Type | Null | Key | Default | Extra |
```

```
+-----+-----+-----+-----+-----+-----+-----+
```

```
| JOBCODE | decimal( 3,0 ) | YES | | NULL | |
```

```
| JOB_DESCR | varchar( 24 ) | YES | | NULL | |
```

```
| SAL | decimal( 10,2 ) | YES | | NULL | |
```

```
+-----+-----+-----+-----+-----+-----+-----+
```

3 rows in set (0.00 sec)

EMP

Query OK, 0 rows affected (0.01 sec)

...

```
+-----+-----+-----+-----+-----+-----+-----+
```

```
| Field | Type | Null | Key | Default | Extra |
```

```
+-----+-----+-----+-----+-----+-----+-----+
```

```
| EMPNO | decimal(4,0) | YES | | NULL | |
```

```
| NAME | varchar( 255 ) | YES | | NULL | |
```

```
| JOBNO | decimal(3,0) | YES | | NULL | |
```

```
| DEPTNO | decimal( 2,0 ) | YES | | NULL | |
```

```
| COMM | decimal( 10,2 ) | YES | | NULL | |
```

DATA BASES II

+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

5.3. Snapshot

DEPT

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> create table
-> DEPT(
-> DEPTNO numeric(2),
-> DNAME varchar(24),
-> LOC char(23)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> describe DEPT;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO | decimal(2,0) | YES  |     | NULL    |       |
| DNAME  | varchar(24)   | YES  |     | NULL    |       |
| LOC    | char(23)      | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> _
```

JOB

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> create table
-> JOB(
-> JOBCODE numeric(3),
-> JOB_DESCR varchar(24),
-> SAL numeric(10,2)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> describe JOB;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| JOBCODE    | decimal(3,0)  | YES  |     | NULL    |       |
| JOB_DESCR  | varchar(24)   | YES  |     | NULL    |       |
| SAL        | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> _
```

DATA BASES II

EMP

```
C:\ Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> create table
-> EMP(
-> EMPNO numeric(4),
-> NAME varchar(255),
-> JOBNO numeric(3),
-> DEPTNO numeric(2),
-> COMM numeric(10,2)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> describe EMP;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| EMPNO | decimal(4,0)  | YES  |     | NULL    |       |
| NAME  | varchar(255)  | YES  |     | NULL    |       |
| JOBNO | decimal(3,0)  | YES  |     | NULL    |       |
| DEPTNO | decimal(2,0)  | YES  |     | NULL    |       |
| COMM  | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> _
```

6. Enter data into the tables

6.1. Statement

DEPT

insert into

DEPT

(DEPTNO, DNAME, LOC)

values

(50, 'SALES', 'ATHENS'),

(60, 'ACCOUNTING', 'ATHENS'),

(70, 'PAYROL', 'VOLOS')

DATA BASES II

```
;
...
select * from DEPT;
```

JOB

```
insert into
JOB
(JOBCODE, JOB_DESCR, SAL)
    values
(100, 'SALESMAN', 2000),
(200, 'ANALYST', 2000),
(300, 'DBA', 3000)
;
...
select * from JOB;
```

EMP

```
insert into
EMP
(EMPNO, NAME, JOBNO, DEPTNO, COMM)
    values
(10, 'CODD', 100, 50, NULL),
(20, 'NAVATHE', 200, 50, 450 ),
(30, 'ELMASRI', 300, 60, NULL),
(40, 'DATE', 100, 50, NULL)
;
...
select * from EMP;
```

6.2. Result

DEPT

Query OK, 3 rows affected (0.01 sec)

Records: 3 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+
| DEPTNO | DNAME | LOC |
+-----+-----+-----+
| 50 | SALES | ATHENS |
| 60 | ACCOUNTING | ATHENS |
| 70 | PAYROLL | VOLOS |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

JOB

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+
| JOBCODE | JOB_DESCR | SAL |
+-----+-----+-----+
| 100 | SALESMAN | 2000.00 |
| 200 | ANALYST | 2000.00 |
| 300 | DBA | 3000.00 |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

DATA BASES II

EMP

Query OK, 4 rows affected (0.00 sec)

Records: 4 Duplicates : 0 Warnings: 0

...

EMPNO	NAME	JOBNO	DEPTNO	COMM
10	CODD	100	50	NULL
20	NAVATHE	200	50	450.00
30	ELMASRI	300	60	NULL
40	DATE	100	50	NULL

4 rows in set (0.00 sec)

6.3. Snapshot

DEPT

DATA BASES II

```
C:\ Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> insert into
  -> DEPT
  -> (DEPTNO, DNAME, LOC)
  -> values
  -> (50, 'SALES', 'ATHENS'),
  -> (60, 'ACCOUNTING', 'ATHENS'),
  -> (70, 'PAYROL', 'VOLOS')
  -> ;
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from DEPT;
+-----+-----+-----+
| DEPTNO | DNAME      | LOC      |
+-----+-----+-----+
|      50 | SALES      | ATHENS   |
|      60 | ACCOUNTING | ATHENS   |
|      70 | PAYROL     | VOLOS    |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> _
```

JOB

```
C:\ Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> insert into
  -> JOB
  -> (JOB_CODE, JOB_DESCR, SAL)
  -> values
  -> (100, 'SALESMAN', 2000),
  -> (200, 'ANALYST', 2000),
  -> (300, 'DBA', 3000)
  -> ;
Query OK, 3 rows affected (0.00 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> select * from JOB;
+-----+-----+-----+
| JOB_CODE | JOB_DESCR | SAL      |
+-----+-----+-----+
|      100 | SALESMAN  | 2000.00  |
|      200 | ANALYST   | 2000.00  |
|      300 | DBA       | 3000.00  |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> _
```

EMP

DATA BASES II

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> insert into
-> EMP
-> (EMPNO, NAME, JOBNO, DEPTNO, COMM)
-> values
-> (10, 'CODD', 100, 50, NULL),
-> (20, 'NAVATHE', 200, 50, 450),
-> (30, 'ELMASRI', 300, 60, NULL),
-> (40, 'DATE', 100, 50, NULL)
-> ;
Query OK, 4 rows affected (0.00 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> select * from EMP;
+-----+-----+-----+-----+-----+
| EMPNO | NAME   | JOBNO | DEPTNO | COMM   |
+-----+-----+-----+-----+-----+
| 10    | CODD   | 100   | 50     | NULL   |
| 20    | NAVATHE | 200   | 50     | 450.00 |
| 30    | ELMASRI | 300   | 60     | NULL   |
| 40    | DATE   | 100   | 50     | NULL   |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> _
```

7. Add column HIREDATE with data type DATE (' YYYY - MM - DD ') to the EMP table . Redisplay the structure of the EMP table

7.1. Statement

```
alter table
    EMP
    add
    HIREDATE date
;
...
describe EMP?
```

7.2. Result

DATA BASES II

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

Field	Type	Null	Key	Default	Extra
EMPNO	decimal(4,0)	YES		NULL	
NAME	varchar(255)	YES		NULL	
JOBNO	decimal(3,0)	YES		NULL	
DEPTNO	decimal(2,0)	YES		NULL	
COMM	decimal(10,2)	YES		NULL	
HIREDATE	date	YES		NULL	

6 rows in set (0.00 sec)

7.3. Snapshot

```
CA: Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> EMP
-> add
-> HIREDATE date
-> ;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe EMP;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| EMPNO | decimal(4,0)  | YES  |     | NULL    |       |
| NAME  | varchar(255)  | YES  |     | NULL    |       |
| JOBNO | decimal(3,0)  | YES  |     | NULL    |       |
| DEPTNO | decimal(2,0)  | YES  |     | NULL    |       |
| COMM  | decimal(10,2) | YES  |     | NULL    |       |
| HIREDATE | date         | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql>
```

DATA BASES II

8. Update the HIREDATE column of the EMP table with values given that the hire dates of the employees are: CODD 10-Jan-2001, NAVATHE 25-Feb-1999, ELMASRI 17-Mar-2000 and DATE 7-Jun-1989

8.1. Statement

update

EMP

set

HIREDATE='2001-01-10'

where

EMPNO=10

;

...

update

EMP

set

HIREDATE='1999-02-25'

where

EMPNO=20

;

...

update

EMP

set

HIREDATE='2000-03-17'

where

EMPNO=30

;

DATA BASES II

```
...
update
EMP
    set
HIREDATE='1989-06-07'
    where
EMPNO=40
;
...
select * from EMP;
```

8.2. Result

Query OK, 1 row affected (0.02 sec)

Rows matched: 1 Changed : 1 Warnings: 0

...

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed : 1 Warnings: 0

...

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed : 1 Warnings: 0

...

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed : 1 Warnings: 0

...

```
+-----+-----+-----+-----+-----+-----+
| EMPNO | NAME | JOBNO | DEPTNO | COMM | HIREDATE |
+-----+-----+-----+-----+-----+-----+
| 10    | CODD | 100   | 50     | NULL | 2001-01-10 |
```


DATA BASES II

| 20 | NAVATHE | 200 | 50 | 450.00 | 1999-02-25 |

| 30 | ELMASRI | 300 | 60 | NULL | 2000-03-17 |

| 40 | DATE | 100 | 50 | NULL | 1989-06-07 |

+-----+-----+-----+-----+-----+-----+-----+-----+

4 rows in set (0.00 sec)

8.3. Snapshot

```
C:\ Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> update
-> EMP
-> set
-> HIREDATE='2001-01-10'
-> where
-> EMPNO=10
-> ;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update
-> EMP
-> set
-> HIREDATE='1999-02-25'
-> where
-> EMPNO=20
-> ;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update
-> EMP
-> set
-> HIREDATE='2000-03-17'
-> where
-> EMPNO=30
-> ;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update
-> EMP
-> set
-> HIREDATE='1989-06-07'
-> where
-> EMPNO=40
-> ;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> _
```

...

DATA BASES II

```
C:\ Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> select * from EMP;
+-----+-----+-----+-----+-----+-----+
| EMPNO | NAME   | JOBNO | DEPTNO | COMM   | HIREDATE |
+-----+-----+-----+-----+-----+-----+
| 10    | CODD   | 100   | 50     | NULL   | 2001-01-10 |
| 20    | NAVATHE | 200   | 50     | 450.00 | 1999-02-25 |
| 30    | ELMASRI | 300   | 60     | NULL   | 2000-03-17 |
| 40    | DATE   | 100   | 50     | NULL   | 1989-06-07 |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> _
```

9. Set data type varchar (30) to the JOB _ DESCR column of the JOB table

9.1. Statement

```
alter table
JOB
    modify
JOB_DESCR varchar( 30 )
;
...
describe JOB?
```

9.2. Result

```
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates : 0 Warnings: 0
...
```

```
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| JOBCODE | decimal( 3,0 ) | YES | | NULL | |
| JOB_DESCR | varchar( 30 ) | YES | | NULL | |
```

DATA BASES II

```
| SAL | decimal( 10,2) | YES | | NULL | |
```

```
+-----+-----+-----+-----+-----+-----+
```

3 rows in set (0.00 sec)

9.3. Snapshot

```
C:\ Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> JOB
-> modify
-> JOB_DESCR varchar(30)
-> ;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe JOB;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| JOBCODE    | decimal(3,0)  | YES  |     | NULL    |       |
| JOB_DESCR  | varchar(30)   | YES  |     | NULL    |       |
| SAL        | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

10. Drop the LOC column of the DEPT table

10.1. Statement

```
alter table
```

```
DEPT
```

```
drop
```

```
LOC
```

```
;
```

```
...
```

```
describe DEPT?
```

DATA BASES II

10.2. Result

Query OK, 0 rows affected (0.02 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

Field	Type	Null	Key	Default	Extra
DEPTNO	decimal(2,0)	YES		NULL	
DNAME	varchar(24)	YES		NULL	

2 rows in set (0.00 sec)

10.3. Snapshot

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql.exe --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> DEPT
-> drop
-> LOC
-> ;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe DEPT;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO | decimal(2,0) | YES  |     | NULL    |       |
| DNAME  | varchar(24)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
```

DATA BASES II

11. Rename the DNAME column of the DEPT table to DEPT _ NAME . Also set data type varchar (25) to column DEPT _ NAME . Note that these changes should occur with the execution of a single statement

11.1. Statement

```
alter table
DEPT
    change
DNAME DEPT_NAME varchar( 25 )
;
...
describe DEPT?
```

11.2. Result

Query OK, 0 rows affected (0.02 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+-----+-----+ +-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+ +-----+
| DEPTNO | decimal( 2,0 ) | YES | | NULL | |
| DEPT_NAME | varchar( 25 ) | YES | | NULL | |
+-----+-----+-----+-----+-----+ +-----+

2 rows in set (0.00 sec )
```

DATA BASES II

11.3. Snapshot

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
      -> DEPT
      -> change
      -> DNAME DEPT_NAME varchar(25)
      -> ;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe DEPT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO     | decimal(2,0)  | YES  |     | NULL    |       |
| DEPT_NAME  | varchar(25)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

12. Add primary key constraint (PRIMARY KEY) named pk _ DEPTNO in table DEPT

12.1. Statement

```
alter table
DEPT
    add constraint
    pk_DEPTNO
    primary key(DEPTNO)
;
...
describe DEPT?
```

12.2. Result

Query OK, 0 rows affected (0.06 sec)

DATA BASES II

Records: 0 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| DEPTNO | decimal( 2,0 ) | NO | PRI | NULL | |
| DEPT_NAME | varchar( 25 ) | YES | | NULL | |
+-----+-----+-----+-----+-----+

2 rows in set (0.00 sec )
```

12.3. Snapshot

```
C:\ Select Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> DEPT
-> add constraint
-> pk_DEPTNO
-> primary key(DEPTNO)
-> ;
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe DEPT;
+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| DEPTNO     | decimal(2,0)  | NO   | PRI | NULL    |      |
| DEPT_NAME  | varchar(25)   | YES  |     | NULL    |      |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

13. Remove the primary key constraint (PRIMARY KEY) in the DEPT table . Show the result of the removal by (a) displaying the structure of the DEPT table and (b) displaying the create command table for the DEPT table

13.1. Statement

alter table

DEPT

DATA BASES II

```
drop
primary key
;
...
describe DEPT?
...
show create table DEPT;
```

13.2. Result

Query OK, 3 rows affected (0.04 sec)

Records: 3 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+-----+-----+ +-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+ +-----+
| DEPTNO | decimal( 2,0 ) | NO | | NULL | |
| DEPT_NAME | varchar( 25 ) | YES | | NULL | |
+-----+-----+-----+-----+-----+ +-----+
```

2 rows in set (0.00 sec)

...

```
+-----+-----+-----+-----+-----+
-----+
-- -----+
```

| Table | Create Table

|

```
+-----+-----+-----+-----+-----+
-----+
-- -----+
```

| DEPT | CREATE TABLE `dept` (

DATA BASES II

`DEPTNO` decimal(2,0) NOT NULL,

`DEPT_NAME` varchar(25) DEFAULT NULL

) ENGINE= InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |

```
+-----+-----+
-----+
-- -----+
```

13.3. Snapshot

```
C:\> Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
->      DEPT
->      drop
->      primary key
->      ;
Query OK, 3 rows affected (0.03 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> describe DEPT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO     | decimal(2,0) | NO   |     | NULL    |       |
| DEPT_NAME  | varchar(25)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

...

```
C:\> Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> show create table DEPT;
+-----+-----+
| Table | Create Table
+-----+-----+
| DEPT  | CREATE TABLE `dept` (
  `DEPTNO` decimal(2,0) NOT NULL,
  `DEPT_NAME` varchar(25) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql> _
```

DATA BASES II

1 4. Add primary key constraint (PRIMARY KEY) and foreign key constraint (FOREIGN KEY) in all tables

14.1. Statement

DEPT

```
alter table
DEPT
    add constraint pk_DEPTNO
    primary key (DEPTNO)
;
...
describe DEPT?
```

JOB

```
alter table
JOB
    add constraint pk_JOBCODE
    primary key (JOBCODE)
;
...
describe JOB?
```

EMP

```
alter table
EMP
    add constraint pk_EMPNO
    primary key (EMPNO)
;
```

DATA BASES II

...

alter table

EMP

add constraint fk_DEPTNO

foreign key (DEPTNO)

references

DEPT(DEPTNO)

;

...

describe EMP?

14.2. Result

DEPT

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

Field	Type	Null	Key	Default	Extra
DEPTNO	decimal(2,0)	NO	PRI	NULL	
DEPT_NAME	varchar(25)	YES		NULL	

2 rows in set (0.00 sec)

JOB

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

DATA BASES II

```
+-----+-----+-----+-----+-----+ +-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+ +-----+
| JOBCODE | decimal( 3,0 ) | NO | PRI | NULL | |
| JOB_DESCR | varchar( 30 ) | YES | | NULL | |
| SAL | decimal( 10,2) | YES | | NULL | |
+-----+-----+-----+-----+-----+ +-----+

3 rows in set (0.00 sec)
```

EMP

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

Query OK, 4 rows affected (0.03 sec)

Records: 4 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+-----+-----+ +-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+ +-----+
| EMPNO | decimal( 4,0 ) | NO | PRI | NULL | |
| NAME | varchar( 255 ) | YES | | NULL | |
| JOBNO | decimal( 3,0 ) | YES | | NULL | |
| DEPTNO | decimal( 2,0 ) | YES | MUL | NULL | |
| COMM | decimal( 10,2) | YES | | NULL | |
| HIREDATE | date | YES | | NULL | |
+-----+-----+-----+-----+-----+ +-----+

6 rows in set (0.00 sec)
```

DATA BASES II

1 4.3. Snapshot

DEPT

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> DEPT
-> add constraint pk_DEPTNO
-> primary key (DEPTNO)
-> ;
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe DEPT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO     | decimal(2,0)  | NO   | PRI | NULL    |       |
| DEPT_NAME  | varchar(25)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

JOB

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> JOB
-> add constraint pk_JOBCODE
-> primary key (JOBCODE)
-> ;
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe JOB;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| JOBCODE    | decimal(3,0)  | NO   | PRI | NULL    |       |
| JOB_DESCR  | varchar(30)   | YES  |     | NULL    |       |
| SAL        | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> _
```

DATA BASES II

EMP

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> EMP
-> add constraint pk_EMPNO
-> primary key (EMPNO)
-> ;
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table
-> EMP
-> add constraint fk_DEPTNO
-> foreign key (DEPTNO)
-> references
-> DEPT(DEPTNO)
-> ;
Query OK, 4 rows affected (0.03 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> describe EMP;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| EMPNO | decimal(4,0)  | NO   | PRI | NULL    |       |
| NAME  | varchar(255)  | YES  |     | NULL    |       |
| JOBNO | decimal(3,0)  | YES  |     | NULL    |       |
| DEPTNO | decimal(2,0)  | YES  | MUL | NULL    |       |
| COMM  | decimal(10,2) | YES  |     | NULL    |       |
| HIREDATE | date        | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> _
```

15. Remove foreign key constraints (FOREIGN KEY) in the EMP table . Show the result of each removal by (a) displaying the structure of the EMP array and (b) displaying the create command table for the EMP table

15.1. Statement

```
alter table
```

```
EMP
```

```
drop foreign key fk_DEPTNO
```

```
;
```

```
...
```

```
describe EMP?
```

DATA BASES II

...

show create table EMP?

15.2. Result

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

```
+-----+-----+-----+-----+-----+ +-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+ +-----+
| EMPNO | decimal( 4,0 ) | NO | PRI | NULL | |
| NAME | varchar( 255 ) | YES | | NULL | |
| JOBNO | decimal( 3,0 ) | YES | | NULL | |
| DEPTNO | decimal( 2,0 ) | YES | MUL | NULL | |
| COMM | decimal( 10,2 ) | YES | | NULL | |
| HIREDATE | date | YES | | NULL | |
+-----+-----+-----+-----+-----+ +-----+
```

6 rows in set (0.00 sec)

...

```
+-----+-----+-----+-----+-----+ +-----+
-----
-----
-----
-----
-----+
| Table | Create Table |
+-----+-----+-----+-----+-----+ +-----+
-----
-----
-----
-----
-----+
| EMP | CREATE TABLE `emp` (
```

DATA BASES II

```
`EMPNO` decimal( 4,0) NOT NULL,  
`NAME` varchar( 255) DEFAULT NULL,  
`JOBNO` decimal( 3,0) DEFAULT NULL,  
`DEPTNO` decimal( 2,0) DEFAULT NULL,  
`COMM` decimal( 10,2) DEFAULT NULL,  
`HIREDATE` date DEFAULT NULL,  
PRIMARY KEY (`EMPNO`),  
KEY `fk_DEPTNO` (`DEPTNO`)  
) ENGINE= InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
```

```
+-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+
```

1 row in set (0.00 sec)

15.3. Snapshot

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p  
mysql> alter table  
-> EMP  
-> drop foreign key fk_DEPTNO  
-> ;  
Query OK, 0 rows affected (0.01 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
mysql> describe EMP;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| EMPNO | decimal(4,0) | NO | PRI | NULL | |  
| NAME | varchar(255) | YES | | NULL | |  
| JOBNO | decimal(3,0) | YES | | NULL | |  
| DEPTNO | decimal(2,0) | YES | MUL | NULL | |  
| COMM | decimal(10,2) | YES | | NULL | |  
| HIREDATE | date | YES | | NULL | |  
+-----+-----+-----+-----+-----+-----+  
6 rows in set (0.00 sec)  
  
mysql> _
```

...

DATA BASES II

```
Select Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> show create table EMP;
+-----+-----+
| Table | Create Table
+-----+-----+
| EMP   | CREATE TABLE `emp` (
  `EMPNO` decimal(4,0) NOT NULL,
  `NAME` varchar(255) DEFAULT NULL,
  `JOBNO` decimal(3,0) DEFAULT NULL,
  `DEPTNO` decimal(2,0) DEFAULT NULL,
  `COMM` decimal(10,2) DEFAULT NULL,
  `HIREDATE` date DEFAULT NULL,
  PRIMARY KEY (`EMPNO`),
  KEY `fk_DEPTNO` (`DEPTNO`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)

mysql> _
```

16. Add a default value constraint (DEFAULT) to the DEPT table , setting a default value of ' Development ' for the table's DNAME column . Show the effect of the constraint by using the following commands and showing the result of executing each command

```
insert into EMP(EMPNO,NAME,JOBNO,DEPTNO,COMM) values (10, 'CODD', 100, 50, NULL);
insert into DEPT ( DEPTNO ) values ( 10 ), ( 20 );
insert into DEPT values ( 30, 'Sales' );
```

16.1. Statement

```
alter table
DEPT
    alter DEPT_NAME
    set default
'Development'
;
```

DATA BASES II

...

describe DEPT?

...

insert into

EMP

(EMPNO, NAME, JOBNO, DEPTNO, COMM)

values

(10, 'Codd', 100, 50, NULL)

;

...

insert into

DEPT

(DEPTNO)

values

(10),

(20)

;

...

select * from DEPT;

...

insert into

DEPT

values

(30, 'Sales')

;

...

select * from DEPT;

DATA BASES II

1 6.2. Result

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

Field	Type	Null	Key	Default	Extra
DEPTNO	decimal(2,0)	NO	PRI	NULL	
DEPT_NAME	varchar(25)	YES		Development	

2 rows in set (0.00 sec)

...

ERROR 1062 (23000): Duplicate entry '10' for key ' emp.PRIMARY '

...

Query OK, 2 rows affected (0.00 sec)

Records: 2 Duplicates : 0 Warnings: 0

...

DEPTNO	DEPT_NAME
10	Development
20	Development
50	SALES
60	ACCOUNTING
70	PAYROLL

5 rows in set (0.00 sec)

DATA BASES II

...

Query OK, 1 row affected (0.00 sec)

...

```
+-----+-----+
| DEPTNO | DEPT_NAME |
+-----+-----+
| 10     | Development |
| 20     | Development |
| 30     | Sales      |
| 50     | SALES      |
| 60     | ACCOUNTING |
| 70     | PAYROLL    |
+-----+-----+
```

6 rows in set (0.00 sec)

16.3. Snapshot

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
-> DEPT
-> alter DEPT_NAME
-> set default
-> 'Development'
-> ;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe DEPT;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default      | Extra |
+-----+-----+-----+-----+-----+-----+
| DEPTNO     | decimal(2,0)  | NO   | PRI | NULL         |       |
| DEPT_NAME  | varchar(25)   | YES  |     | Development   |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

...

DATA BASES II

```
C:\> Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> insert into
-> EMP
-> (EMPNO, NAME, JOBNO, DEPTNO, COMM)
-> values
-> (10, 'Codd', 100, 50, NULL)
-> ;
ERROR 1062 (23000): Duplicate entry '10' for key 'emp.PRIMARY'
mysql> _
```

...

```
C:\> Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> insert into
-> DEPT
-> (DEPTNO)
-> values
-> (10),
-> (20)
-> ;
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from DEPT;
+-----+-----+
| DEPTNO | DEPT_NAME |
+-----+-----+
|      10 | Development |
|      20 | Development |
|      50 | SALES      |
|      60 | ACCOUNTING |
|      70 | PAYROL     |
+-----+-----+
5 rows in set (0.00 sec)

mysql> _
```

...

```
C:\> Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> insert into
-> DEPT
-> values
-> (30, 'Sales')
-> ;
Query OK, 1 row affected (0.00 sec)

mysql> select * from DEPT;
+-----+-----+
| DEPTNO | DEPT_NAME |
+-----+-----+
|      10 | Development |
|      20 | Development |
|      30 | Sales      |
|      50 | SALES      |
|      60 | ACCOUNTING |
|      70 | PAYROL     |
+-----+-----+
6 rows in set (0.00 sec)

mysql> _
```

1 7. Display the list of BD personnel restrictions

17.1. Statement

```
select * from
INFORMATION_SCHEMA.TABLE_CONSTRAINTS
    where
CONSTRAINT_SCHEMA='personnel'
;
```

17.2. Result

```
+-----+-----+-----+-----+-----+
-----+-----+-----+
| CONSTRAINT_CATALOG | CONSTRAINT_SCHEMA | CONSTRAINT_NAME | TABLE_SCHEMA |
TABLE_NAME | CONSTRAINT_TYPE | ENFORCED |
+-----+-----+-----+-----+-----+
| def | personnel | PRIMARY | personnel | dept | PRIMARY KEY | YES |
| def | personnel | PRIMARY | personnel | emp | PRIMARY KEY | YES |
| def | personnel | PRIMARY | personnel | job | PRIMARY KEY | YES |
+-----+-----+-----+-----+-----+
-----+-----+-----+
3 rows in set (0.00 sec)
```

1 7.3. Snapshot

DATA BASES II

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> select * from
-> INFORMATION_SCHEMA.TABLE_CONSTRAINTS
-> where
-> CONSTRAINT_SCHEMA='personnel'
-> ;
```

CONSTRAINT_CATALOG	CONSTRAINT_SCHEMA	CONSTRAINT_NAME	TABLE_SCHEMA	TABLE_NAME	CONSTRAINT_TYPE	ENFORCED
def	personnel	PRIMARY	personnel	dept	PRIMARY KEY	YES
def	personnel	PRIMARY	personnel	emp	PRIMARY KEY	YES
def	personnel	PRIMARY	personnel	job	PRIMARY KEY	YES

```
3 rows in set (0.00 sec)

mysql>
```

18. Create PROJECT table with P_ID and P_NAME columns . Define primary key and set AUTO _ INCREMENT constraint on P _ ID column of table

18.1. Statement

```
create table
PROJECT
(P_ID int , P_NAME varchar( 255 ))
;
...
describe PROJECT;
...
alter table
PROJECT
change P_ID
P_ID int not null
auto_increment
primary key
;
...
describe PROJECT;
```

18.2. Result

DATA BASES II

Query OK, 0 rows affected (0.01 sec)

...

Field	Type	Null	Key	Default	Extra
P_ID	int	YES		NULL	
P_NAME	varchar(255)	YES		NULL	

2 rows in set (0.00 sec)

...

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates : 0 Warnings: 0

...

Field	Type	Null	Key	Default	Extra
P_ID	int	NO	PRI	NULL	auto_increment
P_NAME	varchar(255)	YES		NULL	

2 rows in set (0.00 sec)

1 8.3. Snapshot

DATA BASES II

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p

mysql> create table
-> PROJECT
-> (P_ID int, P_NAME varchar(255))
-> ;
Query OK, 0 rows affected (0.01 sec)

mysql> describe PROJECT;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| P_ID  | int           | YES  |     | NULL    |       |
| P_NAME | varchar(255)  | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

...

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p

mysql> alter table
-> PROJECT
-> change P_ID
-> P_ID int not null
-> auto_increment
-> primary key
-> ;
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe PROJECT;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| P_ID  | int           | NO   | PRI | NULL    | auto_increment |
| P_NAME | varchar(255)  | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

19. Run at least one record entry command to demonstrate the operation of the constraint. Also display the result of executing the command

19.1. Statement

```
insert into
PROJECT
(P_NAME)
values
```

DATA BASES II

```
('MySQL')
;
...
insert into
PROJECT
(P_NAME)
values
(' MariaDB ')
;
...
select * from PROJECT;
```

19.2. Result

Query OK, 1 row affected (0.00 sec)

...

Query OK, 1 row affected (0.00 sec)

...

```
+-----+-----+
| P_ID | P_NAME |
+-----+-----+
| 1 | MySQL |
| 2 | MariaDB |
+-----+-----+
2 rows in set (0.00 sec)
```

19.3. Snapshot

DATA BASES II

```
Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p

mysql> insert into
-> PROJECT
-> (P_NAME)
-> values
-> ('MySQL')
-> ;
Query OK, 1 row affected (0.00 sec)

mysql> insert into
-> PROJECT
-> (P_NAME)
-> values
-> ('MariaDB')
-> ;
Query OK, 1 row affected (0.00 sec)

mysql> select * from PROJECT;
+-----+-----+
| P_ID | P_NAME |
+-----+-----+
|    1 | MySQL  |
|    2 | MariaDB|
+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

20. Set an initial value of 200 for the AUTO _ INCREMENT constraint and repeat the previous step 19

20.1. Statement

alter table

PROJECT

auto_increment = 200

;

...

describe PROJECT;

...

insert into

PROJECT

(P_NAME)

values

DATA BASES II

```
('PostgreSQL')
```

```
;
```

```
...
```

```
insert into
```

```
PROJECT
```

```
(P_NAME)
```

```
values
```

```
('MongoDB')
```

```
;
```

20.2. Result

```
Query OK, 0 rows affected (0.01 sec)
```

```
Records: 0 Duplicates : 0 Warnings: 0
```

```
...
```

```
+-----+-----+-----+-----+-----+-- +-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-- +-----+
| P_ID | int | NO | PRI | NULL | auto_increment |
| P_NAME | varchar( 255 ) | YES | | NULL | |
+-----+-----+-----+-----+-----+-- +-----+
```

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

```
...
```

```
Query OK, 1 row affected (0.00 sec)
```

```
...
```

```
Query OK, 1 row affected (0.00 sec)
```

```
...
```

```
+-----+-----+
| P_ID | P_NAME |
```

DATA BASES II

+-----+-----+

| 1 | MySQL |

| 2 | MariaDB |

| 200 | PostgreSQL |

| 201 | MongoDB |

+-----+-----+

4 rows in set (0.00 sec)

20.3. Snapshot

```
C:\> Command Prompt - "C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" --default-character-set=utf8mb4 -u root -p
mysql> alter table
    -> PROJECT
    -> auto_increment = 200
    -> ;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> describe PROJECT;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| P_ID  | int           | NO   | PRI | NULL    | auto_increment |
| P_NAME | varchar(255)  | YES  |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

...

DATA BASES II

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql.exe --default-character-set=utf8mb4 -u root -p
mysql> insert into
-> PROJECT
-> (P_NAME)
-> values
-> ('PostgreSQL')
-> ;
Query OK, 1 row affected (0.00 sec)

mysql> insert into
-> PROJECT
-> (P_NAME)
-> values
-> ('MongoDB')
-> ;
Query OK, 1 row affected (0.00 sec)

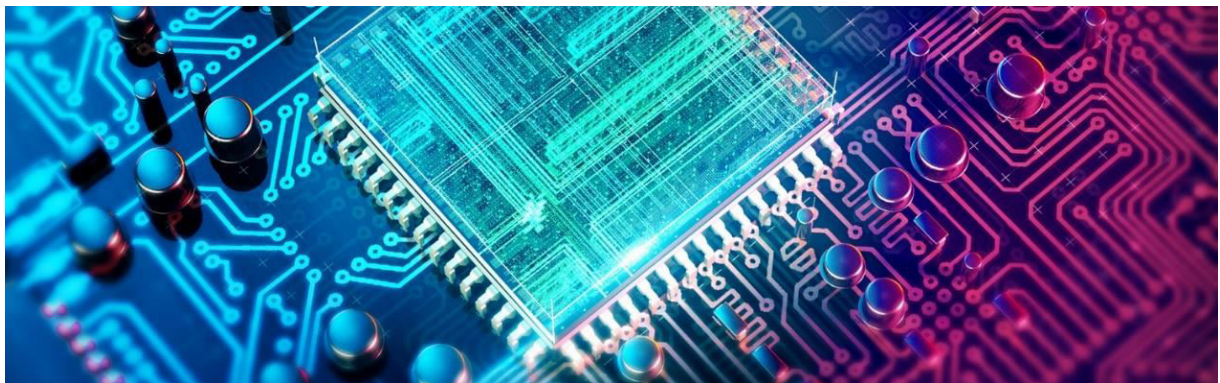
mysql> select * from PROJECT;
+-----+-----+
| P_ID | P_NAME |
+-----+-----+
| 1    | MySQL  |
| 2    | MariaDB|
| 200  | PostgreSQL|
| 201  | MongoDB|
+-----+-----+
4 rows in set (0.00 sec)

mysql> _
```

DATA BASES II



Thank you for your attention.



DATA BASES II

