SQL

Assignment\_1

Q1.

1. Login to MySQL and view all databases already present. You should get

following result :

mysql> use fbs

Database changed

mysql> show tables

-> ;

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| Tables\_in\_fbs |

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

| book |

| employee |

| fbs\_student |

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

Q2.

2. Write an SQL statement to create a simple table countries including columns

country\_id,country\_name and region\_id.

ans->

mysql> create table countries

-> (country\_id int(11),

-> country\_name varchar(20),

-> region\_id int(11));

Query OK, 0 rows affected, 2 warnings (0.05 sec)

mysql> desc countries;

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

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

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

| country\_id | int | YES | | NULL | |

| country\_name | varchar(20) | YES | | NULL | |

| region\_id | int | YES | | NULL | |

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

4. Write a SQL statement to create a table named job\_histry including columns

employee\_id, start\_date, end\_date, job\_id and department\_id

mysql> create table job\_histry

-> (employee\_id int,

-> start\_date date,

-> end\_date date,

-> department\_id int);

Query OK, 0 rows affected (0.04 sec)

mysql> desc job\_histry;

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

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

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

| employee\_id | int | YES | | NULL | |

| start\_date | date | YES | | NULL | |

| end\_date | date | YES | | NULL | |

| department\_id | int | YES | | NULL | |

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

mysql> alter table job\_histry add column job\_id int after end\_date;

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc job\_histry;

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

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

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

| employee\_id | int | YES | | NULL | |

| start\_date | date | YES | | NULL | |

| end\_date | date | YES | | NULL | |

| job\_id | int | YES | | NULL | |

| department\_id | int | YES | | NULL | |

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

Q5.

5. Write an SQL statement to alter a table named countries to make sure that no

duplicate data against column country\_id will be allowed at the time of

insertion.

mysql> alter table countries modify column country\_id int unique;

Query OK, 0 rows affected (0.04 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc countries;

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

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

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

| country\_id | int | YES | UNI | NULL | |

| country\_name | varchar(20) | YES | | NULL | |

| region\_id | int | YES | | NULL | |

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

Q7;

7. Create a Department table with following structure

ans==->

mysql> create table Department

-> (department\_id decimal(4,0),

-> department\_name varchar(30),

-> manager\_id decimal(6,0),

-> location\_id decimal(4,0) not null,

-> primary key(department\_id,manager\_id));

Query OK, 0 rows affected (0.03 sec)

mysql> desc department;

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

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

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

| department\_id | decimal(4,0) | NO | PRI | NULL | |

| department\_name | varchar(30) | YES | | NULL | |

| manager\_id | decimal(6,0) | NO | PRI | NULL | |

| location\_id | decimal(4,0) | NO | | NULL | |

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

4 rows in set (0.00 sec)

mysql> alter table department modify column location\_id decimal(4,0);

Query OK, 0 rows affected (0.04 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc department;

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

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

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

| department\_id | decimal(4,0) | NO | PRI | NULL | |

| department\_name | varchar(30) | YES | | NULL | |

| manager\_id | decimal(6,0) | NO | PRI | NULL | |

| location\_id | decimal(4,0) | YES | | NULL | |

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

4 rows in set (0.00 sec)

mysql> alter table department modify column department\_name varchar(30) not null default "NULL";

Query OK, 0 rows affected (0.05 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc department;

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

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

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

| department\_id | decimal(4,0) | NO | PRI | NULL | |

| department\_name | varchar(30) | NO | | NULL | |

| manager\_id | decimal(6,0) | NO | PRI | NULL | |

| location\_id | decimal(4,0) | YES | | NULL | |

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

4 rows in set (0.00 sec)

mysql> alter table department modify column department\_id decimal(4,0) default 0;

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc department;

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

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

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

| department\_id | decimal(4,0) | NO | PRI | 0 | |

| department\_name | varchar(30) | NO | | NULL | |

| manager\_id | decimal(6,0) | NO | PRI | NULL | |

| location\_id | decimal(4,0) | YES | | NULL | |

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

4 rows in set (0.00 sec)

mysql> alter table department modify column manager\_id decimal(6,0) default 0;

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc department;

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

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

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

| department\_id | decimal(4,0) | NO | PRI | 0 | |

| department\_name | varchar(30) | NO | | NULL | |

| manager\_id | decimal(6,0) | NO | PRI | 0 | |

| location\_id | decimal(4,0) | YES | | NULL | |

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

3. Write an SQL statement to create a table named jobs including columns

job\_id, job\_title, min\_salary, max\_salary and check whether the

max\_salary amount exceeding the upper limit 25000. Also set job\_id as

primary key and entering null values for job\_title is not allowed.

mysql> use fbs

Database changed

mysql> create table jobs

-> (job\_id int,

-> job\_title varchar(20),

-> min\_salary int,

-> max\_salary int);

mysql> alter table jobs

-> add primary key(job\_id);

Query OK, 0 rows affected (0.06 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table jobs

-> modify column job\_title varchar(20) not null,

-> modify column max\_salary int check(max\_salary<=25000);

6. Write an SQL statement to create a table named jobs including columns job\_id,

job\_title, min\_salary and max\_salary, and make sure that, the default value

for job\_title is blank and min\_salary is 8000 and max\_salary is NULL will be

entered automatically at the time of insertion if no value assigned for the

specified columns.

ans->

mysql> alter table jobs modify column job\_title varchar(20) default " ";

Query OK, 0 rows affected (0.04 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc jobs;

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

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

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

| job\_id | int | NO | PRI | NULL | |

| job\_title | varchar(20) | YES | | | |

| min\_salary | int | YES | | NULL | |

| max\_salary | int | YES | | NULL | |

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

4 rows in set (0.00 sec)

mysql> alter table jobs modify column min\_salary int default 8000;

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc jobs;

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

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

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

| job\_id | int | NO | PRI | NULL | |

| job\_title | varchar(20) | YES | | | |

| min\_salary | int | YES | | 8000 | |

| max\_salary | int | YES | | NULL | |

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Q8

Write an SQL statement to create a table employees including columns

employee\_id, first\_name, last\_name, email, phone\_number hire\_date, job\_id,

salary, commission, manager\_id and department\_id and make sure that, the

employee\_id column does not contain any duplicate value at the time of

insertion and the foreign key columns combined by department\_id and

manager\_id columns contain only those unique combination values, which

combinations are exists in the departments table

mysql> create table emp

-> (emp\_id int,

-> first\_name varchar(20),

-> last\_name varchar(20),

-> phone\_number bigint,

-> email varchar(30),

-> hire\_date date,

-> job\_id int,

-> salary decimal(7,2),

-> magr\_id int,

-> dept\_id int);

Query OK, 0 rows affected (0.04 sec)

mysql> desc department;

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

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

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

| department\_id | decimal(4,0) | NO | PRI | 0 | |

| department\_name | varchar(30) | NO | | NULL | |

| manager\_id | decimal(6,0) | NO | PRI | 0 | |

| location\_id | decimal(4,0) | YES | | NULL | |

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

4 rows in set (0.00 sec)

mysql> alter table emp add foreign key(dept\_id,magr\_id) references department(department\_id,manager\_id);

Query OK, 0 rows affected (0.07 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> show create table emp;

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

| Table | Create Table

|

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

| emp | CREATE TABLE `emp` (

`emp\_id` int DEFAULT NULL,

`first\_name` varchar(20) DEFAULT NULL,

`last\_name` varchar(20) DEFAULT NULL,

`phone\_number` bigint DEFAULT NULL,

`email` varchar(30) DEFAULT NULL,

`hire\_date` date DEFAULT NULL,

`job\_id` int DEFAULT NULL,

`salary` decimal(7,2) DEFAULT NULL,

`magr\_id` decimal(4,0) DEFAULT NULL,

`dept\_id` decimal(4,0) DEFAULT NULL,

KEY `dept\_id` (`dept\_id`,`magr\_id`),

CONSTRAINT `emp\_ibfk\_1` FOREIGN KEY (`dept\_id`, `magr\_id`) REFERENCES `department` (`department\_id`, `manager\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_0900\_ai\_ci |

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1 row in set (0.00 sec)

mysql>