

Zach Starry

2.

a. create table student (
id int primary Key,
name char(25) NOT NULL,
dept_name varchar(100) NOT NULL,
total_credits int
);

b. 17:23:03 create table student (id int primary Key, name char(25) NOT NULL,
dept_name varchar(100) NOT NULL, total_credits int) 0 row(s) affected 0.047
sec

3.

a. alter table student
add age int;

b. 17:29:13 alter table student add age int 0 row(s) affected Records: 0
Duplicates: 0 Warnings: 0 0.015 sec

4.

a. describe student;
show create table student;

b. 17:30:35 describe student 5 row(s) returned 0.000 sec / 0.000 sec
'student', 'CREATE TABLE `student` (\n `id` int NOT NULL,\n `name` char(25) NOT
NULL,\n `dept_name` varchar(100) NOT NULL,\n `total_credits` int DEFAULT NULL,\n `age` int DEFAULT NULL,\n PRIMARY KEY (`id`)\n) ENGINE=InnoDB DEFAULT
CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci'

5.

a. INSERT INTO student (id, name, dept_name, total_credits, age) VALUES
(1, 'Alice Johnson', 'Computer Science', 30, 20),
(2, 'Bob Smith', 'Mathematics', 45, 22),
(3, 'Charlie Brown', 'Physics', 35, 21),
(4, 'Diana Prince', 'Biology', 40, 23),
(5, 'Ethan Hunt', 'Chemistry', 50, 24);

b. 17:33:42 INSERT INTO student (id, name, dept_name, total_credits, age) VALUES
(1, 'Alice Johnson', 'Computer Science', 30, 20), (2, 'Bob Smith', 'Mathematics', 45, 22),
(3, 'Charlie Brown', 'Physics', 35, 21), (4, 'Diana Prince', 'Biology', 40, 23), (5, 'Ethan
Hunt', 'Chemistry', 50, 24) 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0
0.015 sec

6. a. SELECT * FROM student;

SELECT id, name FROM student;

SELECT * FROM student WHERE total_credits > 18;

SELECT * FROM student WHERE id > 18 AND dept_name = 'Computer Science';

b.

1	Alice Johnson	Computer Science	30	20
2	Bob Smith	Mathematics	45	22
3	Charlie Brown	Physics	35	21
4	Diana Prince	Biology	40	23
5	Ethan Hunt	Chemistry	50	24

- 1 Alice Johnson
- 2 Bob Smith
- 3 Charlie Brown
- 4 Diana Prince
- 5 Ethan Hunt

1	Alice Johnson	Computer Science	30	20
2	Bob Smith	Mathematics	45	22
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5	Ethan Hunt	Chemistry	50	24

id	nam	dept_nam	total_credit	ag
	e	e	s	e

7.

- a. INSERT INTO student (id, name, dept_name, total_credits, age) VALUES (1, 'Steve Jobs', 'Computer Science', 30, 20);
- b. Error Code: 1062. Duplicate entry '1' for key 'student.PRIMARY'

8.

- a. CREATE TABLE department (
name VARCHAR(100) PRIMARY KEY,
location VARCHAR(100) NOT NULL,
budget DECIMAL(15, 2) NOT NULL CHECK (budget >= 0)
);
INSERT INTO department (name, location, budget) VALUES
('Computer Science', 'Building A', 500000.00),
('Mathematics', 'Building B', 300000.00),
('Physics', 'Building C', 400000.00),
('Biology', 'Building D', 350000.00),
('Chemistry', 'Building E', 450000.00);

B. 17:44:46 INSERT INTO department (name, location, budget) VALUES ('Computer Science', 'Building A', 500000.00), ('Mathematics', 'Building B', 300000.00), ('Physics', 'Building C', 400000.00), ('Biology', 'Building D', 350000.00), ('Chemistry', 'Building E', 450000.00) 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.000 sec

9.

- a. ALTER TABLE student
ADD CONSTRAINT fk_dept_name
FOREIGN KEY (dept_name) REFERENCES department(name);
- b. 17:47:45 ALTER TABLE student ADD CONSTRAINT fk_dept_name FOREIGN
KEY (dept_name) REFERENCES department(name) 5 row(s) affected Records: 5
Duplicates: 0 Warnings: 0 0.047 sec

10. 17:48:58 INSERT INTO student (id, name, dept_name, total_credits, age) VALUES (6, 'Zoe Taylor', 'NonExistentDept', 30, 22) Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`ztstarry`.`student`, CONSTRAINT `fk_dept_name` FOREIGN KEY (`dept_name`) REFERENCES `department` (`name`))0.000 sec

11.

- a. DELETE FROM student WHERE id = 1;
- b. 17:49:21 DELETE FROM student WHERE id = 1 1 row(s) affected 0.015 sec

12.

- a. SELECT age FROM student WHERE id = 2;
UPDATE student SET age = 21 WHERE id = 2;
SELECT age FROM student WHERE id = 2;
- b. 17:51:33 SELECT age FROM student WHERE id = 2 LIMIT 0, 1000 1 row(s)
returned 0.000 sec / 0.000 sec

15.

1.

- a. A command line based section useful for testing snippets.
- b. A system to execute sql from a file without user interaction.
- c. mysql -u username -p database_name < path/to/file.sql
- d. Run tee /path then to stop it use notee

2. A. **use ztstarry;**

describe student;

select id(1) from student;

select avg(total_credits) from student;

B. 17:59:29 use ztstarry 0 row(s) affected 0.000 sec

17:59:29 describe student 5 row(s) returned 0.000 sec / 0.000 sec

**17:59:29 select id(1) from student LIMIT 0, 1000 Error Code: 1305. FUNCTION
ztstarry.id does not exist 0.016 sec**