**MySQL 数据库设计**

A screenshot of a computer

AI-generated content may be incorrect.

A screen shot of a computer code

AI-generated content may be incorrect.

目前在数据库结构中：

✅ **教材结构表（sections, chapters, keypoints）**

✅ **题库结构表（questions, sub\_questions, subsub\_questions）**

CREATE DATABASE exam\_system;

USE exam\_system;

CREATE TABLE sections (

id INT AUTO\_INCREMENT PRIMARY KEY,

name VARCHAR(255) NOT NULL,

description TEXT

);

CREATE TABLE chapters (

id INT AUTO\_INCREMENT PRIMARY KEY,

section\_id INT,

name VARCHAR(255) NOT NULL,

content TEXT,

FOREIGN KEY (section\_id) REFERENCES sections(id) ON DELETE CASCADE

);

CREATE TABLE keypoints (

id INT AUTO\_INCREMENT PRIMARY KEY,

chapter\_id INT,

name VARCHAR(255) NOT NULL,

explanation TEXT,

FOREIGN KEY (chapter\_id) REFERENCES chapters(id) ON DELETE CASCADE

);

CREATE TABLE learning\_progress (

id INT AUTO\_INCREMENT PRIMARY KEY,

user\_id INT,

keypoint\_id INT,

practice\_count INT DEFAULT 0,

correct\_rate FLOAT DEFAULT 0,

last\_practiced TIMESTAMP DEFAULT CURRENT\_TIMESTAMP

);

CREATE TABLE table\_questions (

id INT AUTO\_INCREMENT PRIMARY KEY,

question\_id INT NOT NULL,

cells JSON NOT NULL, -- 一维或二维数组形式，例如 ["Alex", "Kofi", "", "", "", "", ""]

row\_count INT DEFAULT 1,

col\_count INT DEFAULT 7,

FOREIGN KEY (question\_id) REFERENCES questions(id)

);

CREATE TABLE flowchart\_elements (

id INT AUTO\_INCREMENT PRIMARY KEY,

question\_id INT NOT NULL,

element\_name VARCHAR(100) NOT NULL,

expected\_links JSON DEFAULT NULL, -- 目标连线，可为 ["Order"], null 表示无连线要求

position JSON DEFAULT NULL, -- 可选，用于前端定位（如 {"x":0.1, "y":0.4}）

FOREIGN KEY (question\_id) REFERENCES questions(id)

);