-- Create the database

CREATE DATABASE IF NOT EXISTS lms\_db;

-- Use the database

USE lms\_db;

-- Create the announcements table

CREATE TABLE announcements (

id INT(11) NOT NULL AUTO\_INCREMENT,

title VARCHAR(255) NOT NULL,

message TEXT NOT NULL,

created\_at DATETIME DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (id)

);

CREATE TABLE `assignments` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`title` VARCHAR(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NOT NULL,

`description` TEXT CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NOT NULL,

`due\_date` DATE NOT NULL,

`course\_id` INT(11) NOT NULL,

`file\_path` VARCHAR(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci DEFAULT NULL,

`user\_id` INT(11) NOT NULL,

`max\_marks` INT(11) DEFAULT 10,

PRIMARY KEY (`id`),

KEY `course\_id` (`course\_id`),

KEY `user\_id` (`user\_id`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `assignment\_submissions` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`user\_id` INT(11) NOT NULL,

`assignment\_id` INT(11) NOT NULL,

`submission\_text` TEXT DEFAULT NULL,

`submission\_file` VARCHAR(255) DEFAULT NULL,

`score` INT(11) DEFAULT NULL,

`submitted\_at` DATETIME DEFAULT NULL,

`graded\_at` DATETIME DEFAULT NULL,

`graded\_by` INT(11) DEFAULT NULL,

PRIMARY KEY (`id`),

KEY `user\_id` (`user\_id`),

KEY `assignment\_id` (`assignment\_id`),

KEY `graded\_by` (`graded\_by`),

CONSTRAINT `fk\_submissions\_user` FOREIGN KEY (`user\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE,

CONSTRAINT `fk\_submissions\_assignment` FOREIGN KEY (`assignment\_id`) REFERENCES `assignments`(`id`) ON DELETE CASCADE,

CONSTRAINT `fk\_submissions\_grader` FOREIGN KEY (`graded\_by`) REFERENCES `users`(`id`) ON DELETE SET NULL

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `courses` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`course\_name` VARCHAR(255) NOT NULL,

`course\_description` TEXT NOT NULL,

`video\_path` VARCHAR(255) DEFAULT NULL,

`created\_at` DATETIME NOT NULL,

`teacher\_id` INT(11) NOT NULL DEFAULT 0,

PRIMARY KEY (`id`)

)

CREATE TABLE `enrollments` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`user\_id` INT(11) NOT NULL,

`course\_id` INT(11) NOT NULL,

`enrollment\_date` TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,

`completed` TINYINT(1) DEFAULT 0,

PRIMARY KEY (`id`),

KEY `user\_id` (`user\_id`),

KEY `course\_id` (`course\_id`),

CONSTRAINT `fk\_enrollments\_user` FOREIGN KEY (`user\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE,

CONSTRAINT `fk\_enrollments\_course` FOREIGN KEY (`course\_id`) REFERENCES `courses`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `options` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`question\_id` INT(11) NOT NULL,

`option\_text` TEXT NOT NULL,

`is\_correct` TINYINT(1) NOT NULL DEFAULT 0,

PRIMARY KEY (`id`),

KEY `question\_id` (`question\_id`),

CONSTRAINT `fk\_options\_question` FOREIGN KEY (`question\_id`) REFERENCES `questions`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `progress` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`user\_id` INT(11) NOT NULL,

`course\_id` INT(11) NOT NULL,

`percentage` DECIMAL(5,2) DEFAULT NULL,

`grade` VARCHAR(10) DEFAULT NULL,

PRIMARY KEY (`id`),

KEY `user\_id` (`user\_id`),

KEY `course\_id` (`course\_id`),

CONSTRAINT `fk\_progress\_user` FOREIGN KEY (`user\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE,

CONSTRAINT `fk\_progress\_course` FOREIGN KEY (`course\_id`) REFERENCES `courses`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `questions` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`quiz\_id` INT(11) DEFAULT NULL,

`question\_text` TEXT CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci NOT NULL,

`option\_a` VARCHAR(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci DEFAULT NULL,

`option\_b` VARCHAR(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci DEFAULT NULL,

`option\_c` VARCHAR(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci DEFAULT NULL,

`option\_d` VARCHAR(255) CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci DEFAULT NULL,

`correct\_option` ENUM('A', 'B', 'C', 'D') CHARACTER SET utf8mb4 COLLATE utf8mb4\_general\_ci DEFAULT NULL,

PRIMARY KEY (`id`),

KEY `quiz\_id` (`quiz\_id`),

CONSTRAINT `fk\_questions\_quiz` FOREIGN KEY (`quiz\_id`) REFERENCES `quizzes`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `quizzes` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`course\_id` INT(11) NOT NULL,

`quiz\_title` VARCHAR(255) NOT NULL,

`description` TEXT DEFAULT NULL,

`created\_at` DATETIME NOT NULL DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (`id`),

KEY `course\_id` (`course\_id`),

CONSTRAINT `fk\_quizzes\_course` FOREIGN KEY (`course\_id`) REFERENCES `courses`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `results` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`user\_id` INT(11) NOT NULL,

`quiz\_id` INT(11) NOT NULL,

`score` INT(11) NOT NULL,

`total` INT(11) NOT NULL,

`percentage` DECIMAL(5,2) NOT NULL,

`taken\_at` TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (`id`),

KEY `user\_id` (`user\_id`),

KEY `quiz\_id` (`quiz\_id`),

CONSTRAINT `fk\_results\_user` FOREIGN KEY (`user\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE,

CONSTRAINT `fk\_results\_quiz` FOREIGN KEY (`quiz\_id`) REFERENCES `quizzes`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `submissions` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`user\_id` INT(11) NOT NULL,

`assignment\_id` INT(11) NOT NULL,

`file\_path` VARCHAR(255) DEFAULT NULL,

`submitted\_at` DATETIME DEFAULT CURRENT\_TIMESTAMP,

`grade` VARCHAR(10) DEFAULT NULL,

`feedback` TEXT DEFAULT NULL,

PRIMARY KEY (`id`),

KEY `user\_id` (`user\_id`),

KEY `assignment\_id` (`assignment\_id`),

CONSTRAINT `fk\_submissions\_user` FOREIGN KEY (`user\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE,

CONSTRAINT `fk\_submissions\_assignment` FOREIGN KEY (`assignment\_id`) REFERENCES `assignments`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `users` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`username` VARCHAR(255) NOT NULL UNIQUE,

`password` VARCHAR(255) NOT NULL,

`role` ENUM('user', 'teacher', 'admin') NOT NULL,

`created\_at` DATETIME DEFAULT CURRENT\_TIMESTAMP,

`email` VARCHAR(255) NOT NULL,

`profile\_picture` VARCHAR(255) DEFAULT 'uploads/default.png',

`last\_login` TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (`id`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE `user\_messages` (

`id` INT(11) NOT NULL AUTO\_INCREMENT,

`teacher\_id` INT(11) NOT NULL,

`student\_id` INT(11) NOT NULL,

`message` TEXT NOT NULL,

`sent\_at` TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (`id`),

INDEX `teacher\_id` (`teacher\_id`),

INDEX `student\_id` (`student\_id`),

FOREIGN KEY (`teacher\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE,

FOREIGN KEY (`student\_id`) REFERENCES `users`(`id`) ON DELETE CASCADE

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4\_general\_ci;

CREATE TABLE users (

id INT(255) NOT NULL AUTO\_INCREMENT, -- Primary key, auto-incrementing

username VARCHAR(255) NOT NULL, -- Username, cannot be null

password VARCHAR(255) NOT NULL, -- Password, cannot be null

role ENUM('user', 'teacher', 'admin') NOT NULL, -- Role, must be one of these values

created\_at DATETIME DEFAULT CURRENT\_TIMESTAMP, -- Timestamp when the user is created

email VARCHAR(255) NOT NULL, -- Email, cannot be null

profile\_picture VARCHAR(255) DEFAULT 'uploads/default.png', -- Profile picture with default

last\_login TIMESTAMP DEFAULT CURRENT\_TIMESTAMP, -- Timestamp of last login, auto-updates

teacher\_status ENUM('pending', 'approved', 'rejected') DEFAULT NULL, -- Teacher status (if applicable)

PRIMARY KEY (id), -- Primary key on id

INDEX(username) -- Index for faster username lookup

);

CREATE TABLE messages (

id INT(11) NOT NULL AUTO\_INCREMENT, -- Primary key, auto-incrementing

user\_email VARCHAR(255) NOT NULL, -- Email of the recipient

subject VARCHAR(255) NOT NULL, -- Subject of the message

message TEXT NOT NULL, -- Content of the message

sent\_at DATETIME NOT NULL, -- Timestamp of when the message is sent

PRIMARY KEY (id), -- Primary key on the id column

INDEX (user\_email) -- Index for faster searches on user\_email

);