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E-learning Platform with Course Recomendations

→ Create a database for an e-learning Platforms to manage Users, Courses, quizes

Requirements:

Design tables for users, Courseses, modules, quizzes and completions tracking between courses and quizes

Write relation between courses and quizes

write stored procedure to calculate user progress and recomend new courses on completion history

A) Conceptual E-R-D Model:

-) Correctly identify entities and relationships

-) Consider adding an entity for category to further normalise data

Logical E-R-D Model:

Well-defined artibutes for each entity

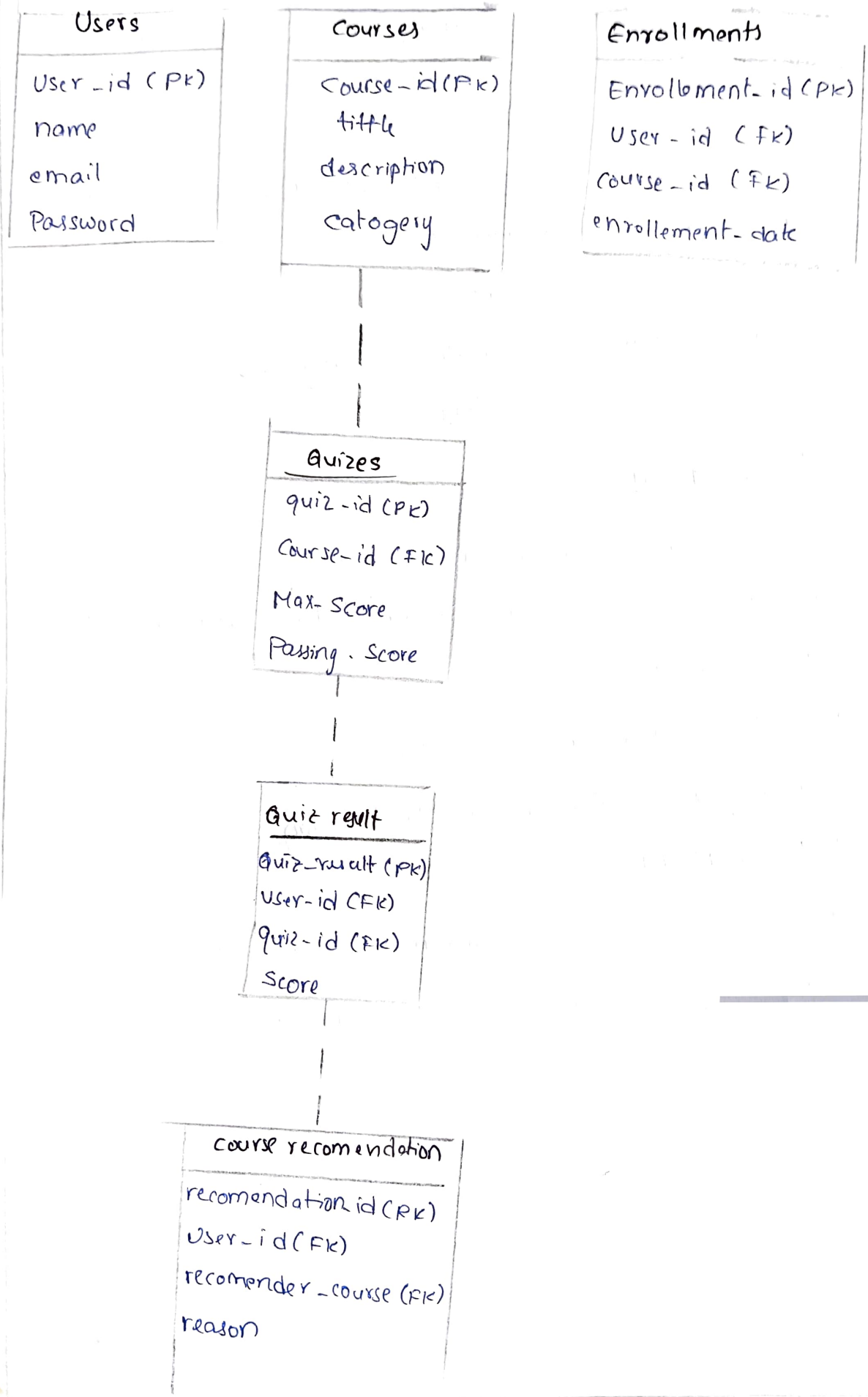
Consider adding a "status" artibute to the enrollment entity

Physical E-R-D Model:

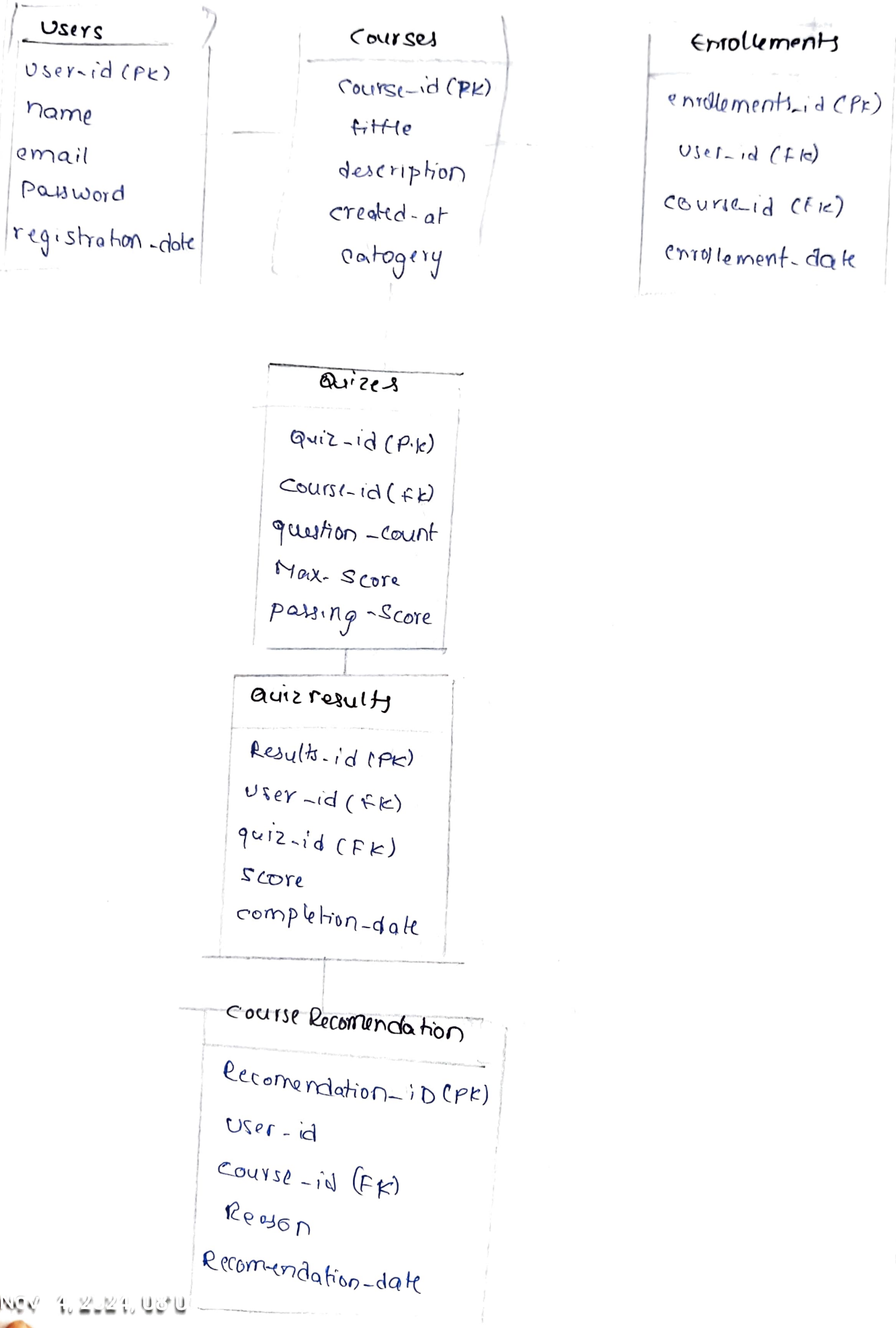
-) Proper use of primary keys, foreign keys, data types

-) Consider indexing Columns used in WHERE, JOIN and ORDER BY

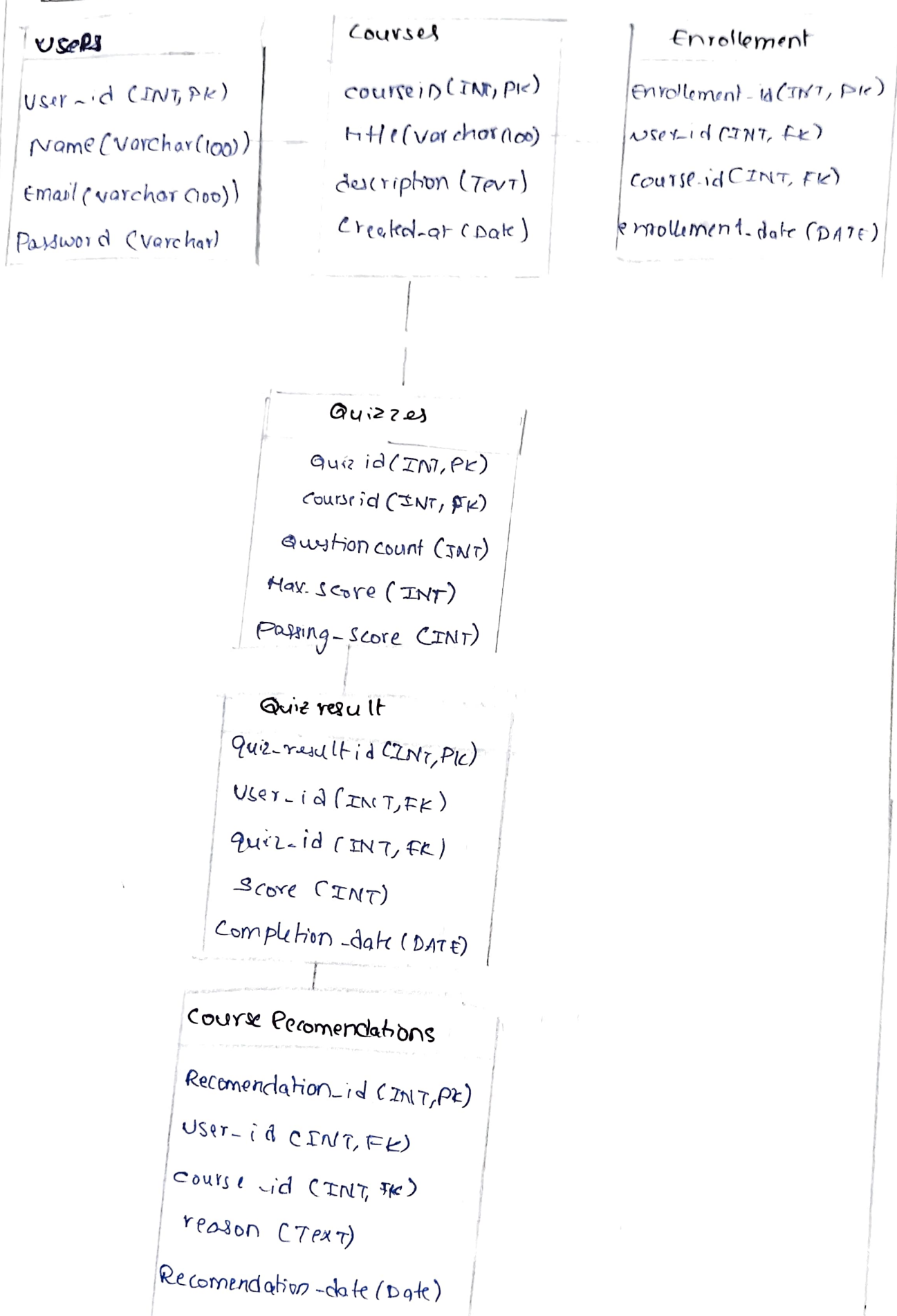
Conceptual E-R Diagram:



Logical ER Diagram:



Physical E-R Diagram:



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Sql statements:

Create Table Statements:

```
CREATE TABLE USERS (
 USER_ID INT PRIMARY KEY,
User Name VARCHAR(50),
Email VARCHAR(100)
Intrests TEXT
);
```

```
Create Table Modules (
 Module_ID INT PRIMARY KEY,
 Course_ID INT
Title VARCHAR(100),
CONTENT TEXT,
Category VARCHAR(10)
);
```

```
CREate Table ENRollements (
ENRollement_ID INT PRIMARY KEY,
USER_ID INT, COURSE_ID INT
FOREIGN KEY (USER_ID)
References Users(User_ID)
FOREIGN KEY (Course_ID)
REFERENCES Courses (Course_ID)
```

```
create table Courses (
Course_ID(INT, Primary key)
Title VARCHAR(100)
 Content TEXT,
Foreign key (course_ID
 );
```

```
Create Table Quizes (
Quiz_ID (INT PRIMARY key),
Course_ID INT,
Module_ID INT,
Qustions TEXT
 FOREIGN KEY (Course_ID)
REFERENCES Courses (Course_ID)
 );
```

```
 Create Table completion (
completion ID INT PRIMARY
USER_ID INT, Course_ID INT,
Module_ID INT, Quiz_ID INT
Completion_Date DATETIME,
 FOREIGN KEY (USER_ID),
FOREIGN KEY (course_ID)
FOREIGN KEY (Module_ID)
FOREIGN KEY (Quiz_ID)
```