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Course: CSC306 Test

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### Answers

1. It should be reliable
2. It should possess the ACID properties
3. It should be scalable
4. It should be easy to maintain data
5. It should have different views of data

3) an entity set may have partial participation in a relationship if not all the elements in that entity set have a relationship with or partake in that relationship. For example: Every student is in school but not every student will write a particular test because there is a possibility that some might miss it for various reasons.  
∴ the relationship between students and tests puts the student entity in partial participation in that relationship "write"

4) DDL: Data definition language refers to the kind of language of database that deals with creation and specification of underlying data

e.g CREATE DATABASE Students;

e.g CREATE TABLE student (

Name Varchar (50),

MatNo Varchar (25),

Age Int);

while; DML: Data manipulation language deals with insertion, editing, deletion and manipulation of data in general

e.g INSERT INTO student (Name, MatNo, Age) VALUES ("Valentina", "17/5001/064", 17);

e.g SELECT \* FROM student;

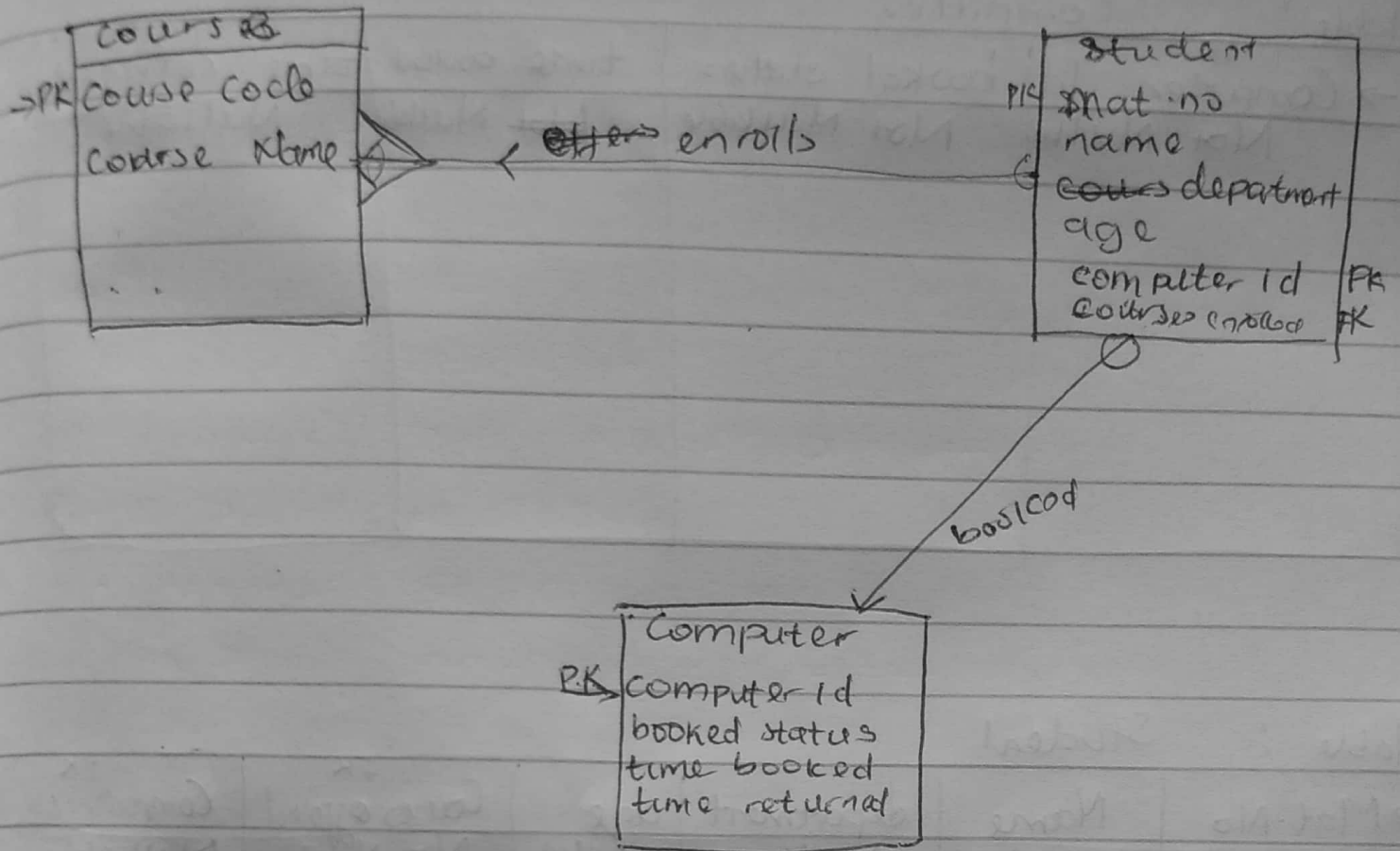
5) Creating a model for a university library  
goal: booking system to enable students book a specific lab computer at a specific time.

possible entities

- Students

- Courses

- Computer



**Description**

- Every student has enrolled on certain courses
- Each course is being enrolled by a student
- Each student may book a computer
- Each computer may be booked by a student

**Tables :**

**Courses**

PK Course code	Course Name

Course code - Not Nullable  
 Course Name - Not Nullable

Table: Computer

Computer Id <sup>PK</sup>	booked status	time booked	time returned
Not Null	Not Null	Not Null	Nullable

Table: Student

Mat.No	Name	department	age	Courses offered <sup>FK</sup>	Computer Id <sup>FK</sup>
Not Null -able	Not Null -able	Nullable	Nullable	Not Null -able	Nullable

2) A relationship may be said to be optional if it is not necessary or permanent for the final action to take place. The relationship ~~for example in question 5:1~~ may or may not exist between two entities.