

ODE VICTOR

17/SCI01/017

CSC306 EXERCISE

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CSC306 Exercise

Q1
Five characteristics of DB

1 Data Sharing:

Within a Database system data sharing is allowed between users who have access to the system

2 Restriction of unauthorized access

Users on the same database will have different accessing privileges ie not all users on the db will have the same level of access. Some may have read only access and some write only access

3 Control of Data Redundancy

In a database ideally each data item is stored in only one place in the DB

4 ACID Properties

Atomicity
Consistency
Isolation
Durability

5 Back up and Recovery

In a case where data is Database can always

be backed up and recovered in case where there is data loss

Q4

DDL - Database Definition Language

DDL specifies

- i) The Database schema and
- ii) The storage structure and access methods

Example

```
CREATE TABLE tblstudent (  
  ID int NOT NULL;  
  Name varchar(50) NOT NULL;  
  Sex varchar(10) NOT NULL;  
  Email varchar(50) NULL;  
  Matric No. varchar(50) NOT NULL;  
);
```

DML

DML - Data Manipulation Language

DML allows:

User to access or manipulate data stored in the DB

using statements like CREATE, INSERT, DELETE, UPDATE

Example

i) INSERT INTO tblstudent (ID, Name, Sex, Email, Matric No)
VALUES ('1', 'Israel', 'iyekid@yahoo.com', '1715401017');

ii) CREATE TABLE tblstudent(
ID int NOT NULL;
Name varchar(50) NOT NULL;
Sex varchar(10) NOT NULL;
Email varchar(50) NULL;
Matric No varchar(50) NOT NULL;
);

iii) DELETE FROM tblstudent

iv) UPDATE SQL UPDATE tblstudent
SET Name = 'Joshua',
Matric No = '171091009';
WHERE ID = 1;

Q2

In an optional relationship, only instance of one entity might participate in a relationship with another entity, but this is not compulsory

TBL COMPUTER

COMPUTER ID	MAKE	DESCRIPTION
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TBL COURSES

COURSE ID	COURSE NAME
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TBL BOOKING

BOOKING ID	STUDENT ID	COMPUTER ID	TIME BOOKED
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RM

STUDENT ID, NAME, MATRIC NO, COURSE ID (FOREIGN KEY) [NO NULL ENTRY]

COMPUTER ID, MAKE, DESCRIPTION

[NULL ENTRY]

COURSE ID, COURSE NAME

[NO NULL ENTRY]

~~BOOKING ID, STUDENT ID, COMPUTER ID, ID~~

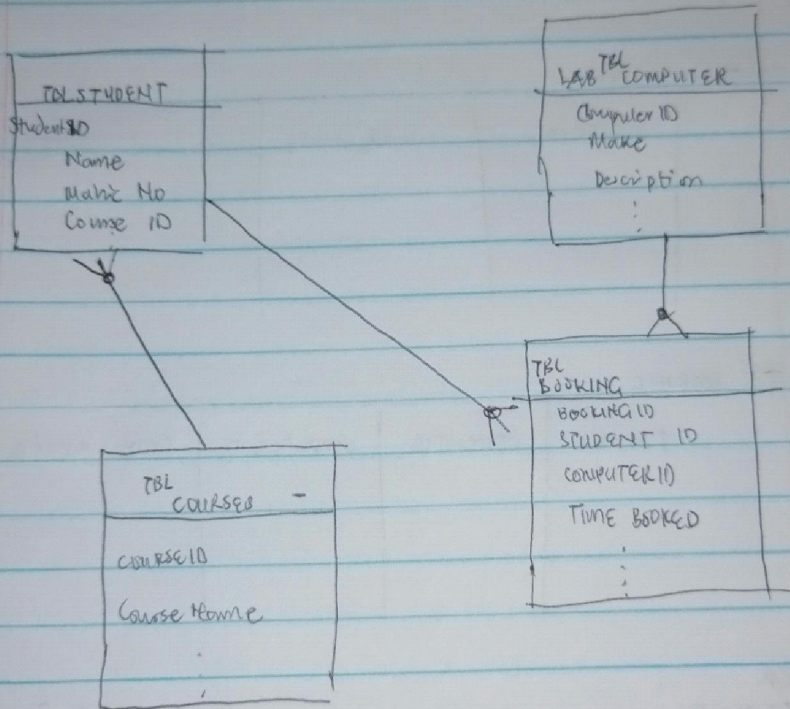
BOOKING ID, STUDENT ID (FOREIGN KEY), COMPUTER ID (FOREIGN KEY), TIME BOOKED

[NO NULL ENTRY]

Q3

The relationship in an entity set is said to be partial if only some attributes in \mathcal{E} participate in relationship R^*

Q5



RELATIONAL TABLES

TBLSTUDENT			
STUDENT ID	NAME	MATRIC ID	COURSE ID

