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CSE-3A

Assignment-1
(DBMS)

Date _____

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Ans-1 Data Integrity \Rightarrow Data integrity is the maintenance of and the assurance of the accuracy and consistency of data over its entire life-cycle.

"Data should be accurate e.g. my facebook profile should contain valid country name".

If I need to enforce the integrity of a column whose name is "Contact no" then If it is needed to be unique and max size 10, then -

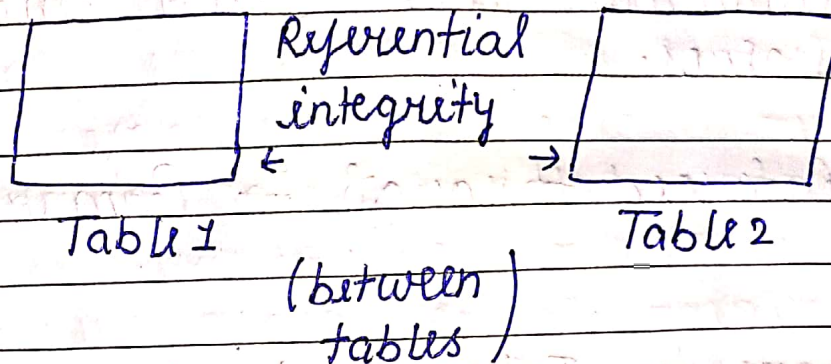
contact varchar(10) not null,

↑ Entity
Domain integrity integrity

We enforced through data types, check constraint etc.

Ans-2

Referential Integrity = "Every value of a column in a table must exist as a value of another column in a different (or same) table."



For example we have two tables Teacher & Student.

Teacher

Teach ID	Name
101	Abhay
102	Shanu
103	Vipul
104	Abha

Student

Stu-Id	Name	Class-teacher Id
1	Anik	101
2	Anaya	102
3	Kapil	101
4	Anu	—

(Parent table)

Referential integrity is shown by column teach-Id

Foreign key for student (Child Table)

Ans-3 There are 3 types of Integrity

(i) Entity Integrity \Rightarrow Each table must have a column or set of columns through which we can uniquely identify a row. These column(s) can't have empty (null) values.

Enforced through — Primary keys

(ii) Domain Integrity \Rightarrow All attributes in a table must have a defined domain i.e. a finite set of values which have to be used. When we assign a data type to a column we limit the values that it can contain. In addition we can also have value restriction as per business rules e.g. Gender must be 'M' or 'F'.

Enforced through — Data types, check constraint.

(iii) Referential Integrity — Every value of a column in a table must exist as a value of another column in a different (or same table).

Enforced through — Foreign key

Example

Create table Supplier. (
Supplier Id number (10) primary key,

Domain
Integrity

Entity Integrity

city varchar2(50));

Alter table products add constraint
fk-products-supp foreign
key (supplier-id)

Referential Integrity

Ans-4 Primary key \Rightarrow Primary key is the candidate key that is selected to uniquely identify a tuple in relation. The mandatory and desired attributes for a primary key are :

- | Mandatory | Desired |
|-----------------------------------|--|
| ① must uniquely identify a tuple. | ① Should not change with time |
| ② must not allow NULL values. | ② Should have a short size
eg. Numeric data |

Student

	Stud-Id	Name	Contact no
Primary key	101	Abhay	889608
	102	Abhinav	123456
	103	Vipul	34956
	104	Vishal	12587

In this all columns are candidate key but Name may be same for large data and contact number can be change in future. So Student Id is - most suitable for primary key

⑤ Student roll no → It must be candidate key

Name → There may be possibility of students of same name so it can't be.

Address → There may be possibility sibling having same address so it also can't be.

Class → It can't be

Phone → If we assumed everyone has a contact number and it is unique then it can be.

Email → In this also if we assumed it is unique & not null it can be