6/12/21

[2CSE301]
DBMS

Prajapati Yash.P. (CBDA) 20162121023

Date
Page

A2 Mapping cardinality means it is a number of relationships that are made in which an entity can participate.

- For a binary relationship R(A, B), mapping can be,
(a) One to One
(b) One to Many
(c) Many to One
(d) Many to Many

(A) One-to-One :- When an entity in A is connected to only one entity in B and entity of B is connected to only on entity of A, then it is known as one-to-one cardinality.

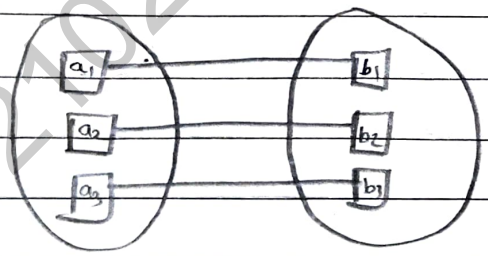

fig. (A) One-to-one

(B) One-to-many :- When an entity of A is associated with any number of entities in B, but an entity of B is only associated with only 1 entity of A it is called one-to-many.

Prajapati Yash. P. 2016212023

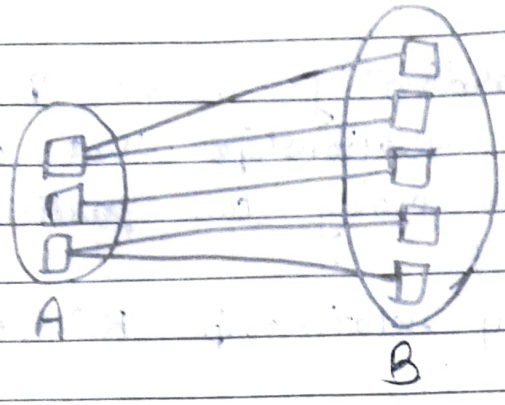

fig. (b): One to many example.

(c) Many to one :- This cardinality is opposite of one-to-many, as in this entity of B are associated with more than 1 entity of A but entity of 'A' are associated with only 1 entity of B A4

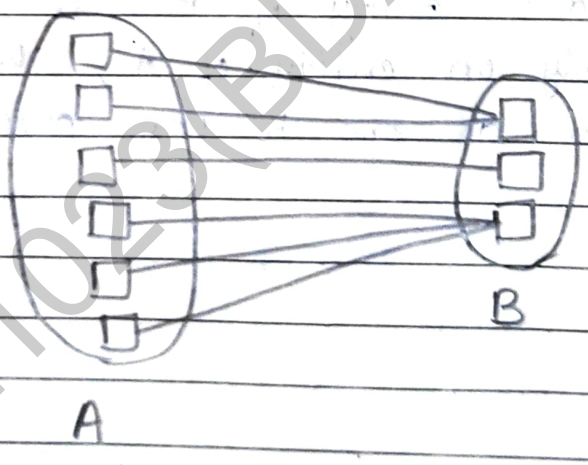

fig (c) : Many-to-one

(d) Many to Many :- An enitity of A is associated with n number of entities of B and entity of B can be associated with m number of entities of A. This is called many-to-many.

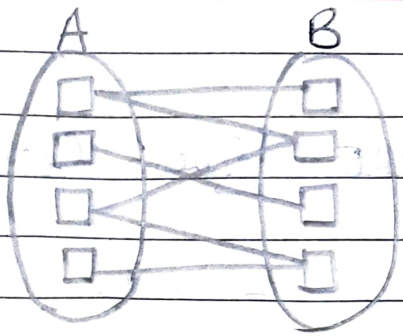

fig (d) : - many - to - many.

A4 (a) DELIMITER //

```
CREATE TRIGGER Ques4A AFTER UPDATE ON
account [redacted] [redacted] FOR EACH ROW
BEGIN
INSERT INTO account_log VALUES (new.acno,
    balance, new.balance, GETDATE());
END;
//
```

(b) DELIMITER //

```
CREATE TRIGGER Ques4B BEFORE INSERT ON
account FOR EACH ROW
BEGIN
SET new.name = upper (new.name);
END;
//
```

Prajapati Yash P. 2016212023

A3

```
DELIMITER //
CREATE PROCEDURE Ques3 (IN enroll int,
OUT Find-spi VARCHAR (10))
BEGIN
SELECT spi INTO Find-spi from result WHERE
 enrollment_no = enroll;
END //
DELIMITER;

CALL Ques3 (101, @yash);

Select @yash as "SPI";
```

A1

A relation schema R is in 3NF with respect to a set F of functional dependencies if, for all FD in F^+ of the form $\alpha \rightarrow \beta$, where $\alpha \subseteq R$ & $\beta \subseteq R$, at least one of the following holds :-

- ↳ $\alpha \rightarrow \beta$ is trivial FD
- ↳ α is superkey for β
- ↳ Each attribute A in $\beta - \alpha$ is contained in a candidate key for R.

Let us see dept_advisor relation set, which has following, functional dependencies :-

i_ID → dept_name

s_ID, dept_name → i_ID

Prajapati Yash P. 20162121023

Here, note that α = i-ID , β = dept_name and $\beta - \alpha$ = dept_name. Since FD is s_ID, dept_name → i_ID holds on dept_advisor, the attribute dept_name is contained in a candidate key and therefore, dept_advisor is in 3NF.

X X