CS & IT ENGINEERING

Database Management System

ER Model

DPP – 01 Discussion Notes

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01 Question

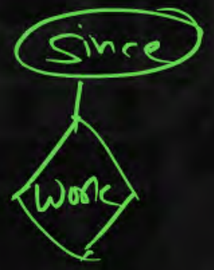
02 Discussion

Q.1 Which of the following statements about ER model is/are correct? [MCQ]

S_1: Relationship sets can have attributes of their own.

S_2: Many to many relationships cannot be represented in ER diagram.

S_3: Multi value attributes and weak entity set allowed in R DBMS.



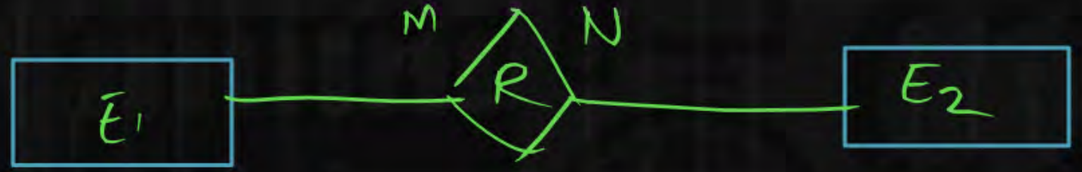
A. S_1 only

B. S_1 and S_3 only

C. S_2 and S_3 only

D. S_1, S_2 and S_3

Ans (A)



RDBMS

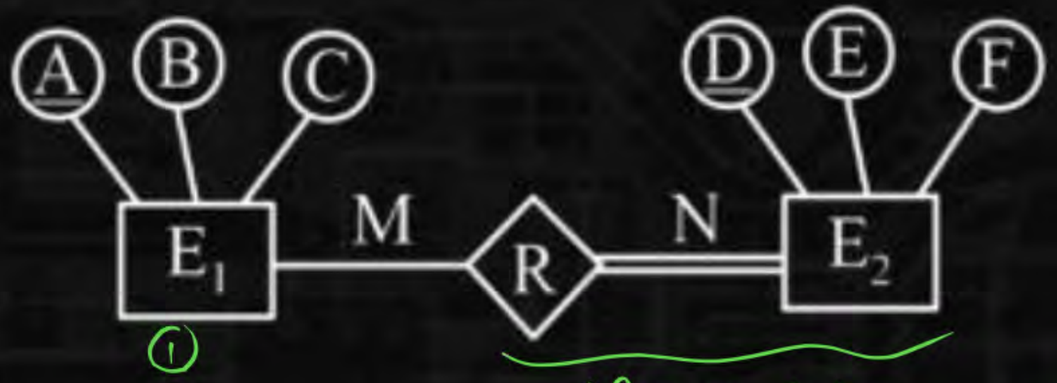
- No Multivalued Attribute
- No Composite Attribute
- No Weak Entity

Q.2

[MCQ]

Consider the following ERD:

Which of the following is the minimum number of relational table and foreign key required for above ERD?



A. 3, 2

B. 1, 1

C. 2, 1

D. None of these

Merge into 1 Table

$E_1(\underline{A}\,B\,C)$

$RE_2(\underline{D}\,E\,F\,A)$ — A → F.k

2 Tables

1 F.k

Ans [C]

Q.3

[MCQ]

Consider the following ER model:

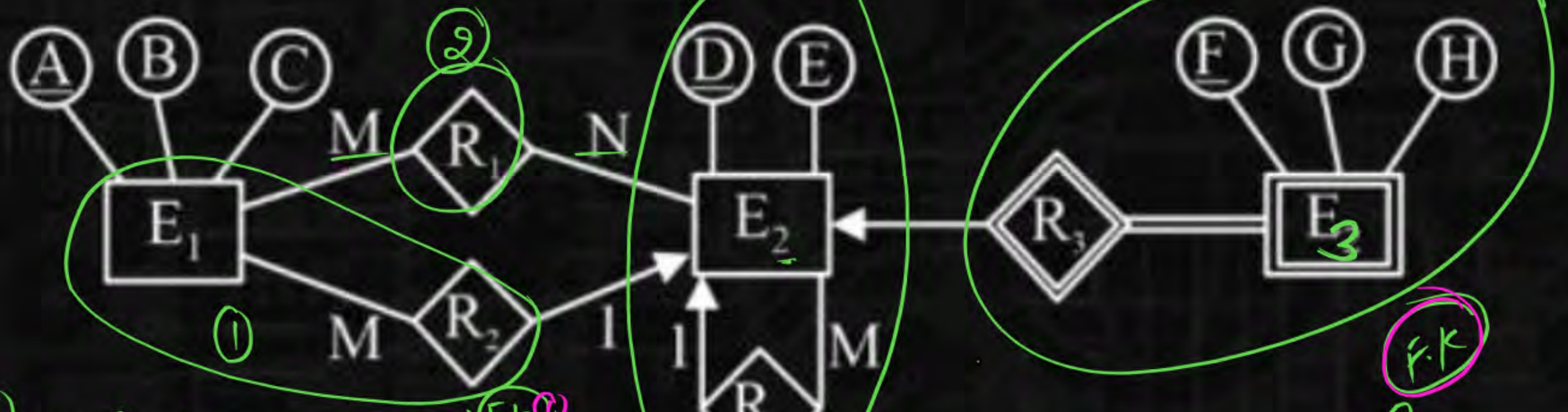
Which of the following is the minimum number of relational tables and minimum number of foreign key required for conversion into relational table?

A. 6, 4

B. 4, 5

C. 5, 4

D. 4, 6



① $E_1 R_2 (\underline{A}\, B\, C \subset \underline{D})$ F.K

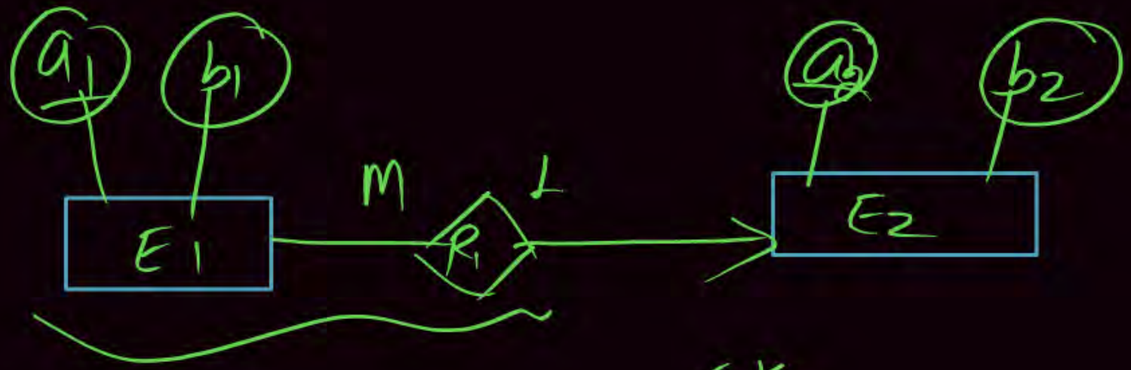
② $R_1 (\underline{A}\, \underline{D})$ F.K F.K

③ $E_2 (\underline{D}\, E\, \underline{D_1})$ F.K

④ $R_3 E_3 (F\, G\, H\, \underline{D})$ F.K

Ans (B)

4 Tables
5 F.K



F.K

2 Table $E_1R_1(\underline{a_1}\ b_1\ \underline{a_2})$ $E_2(a_2\ b_2)$

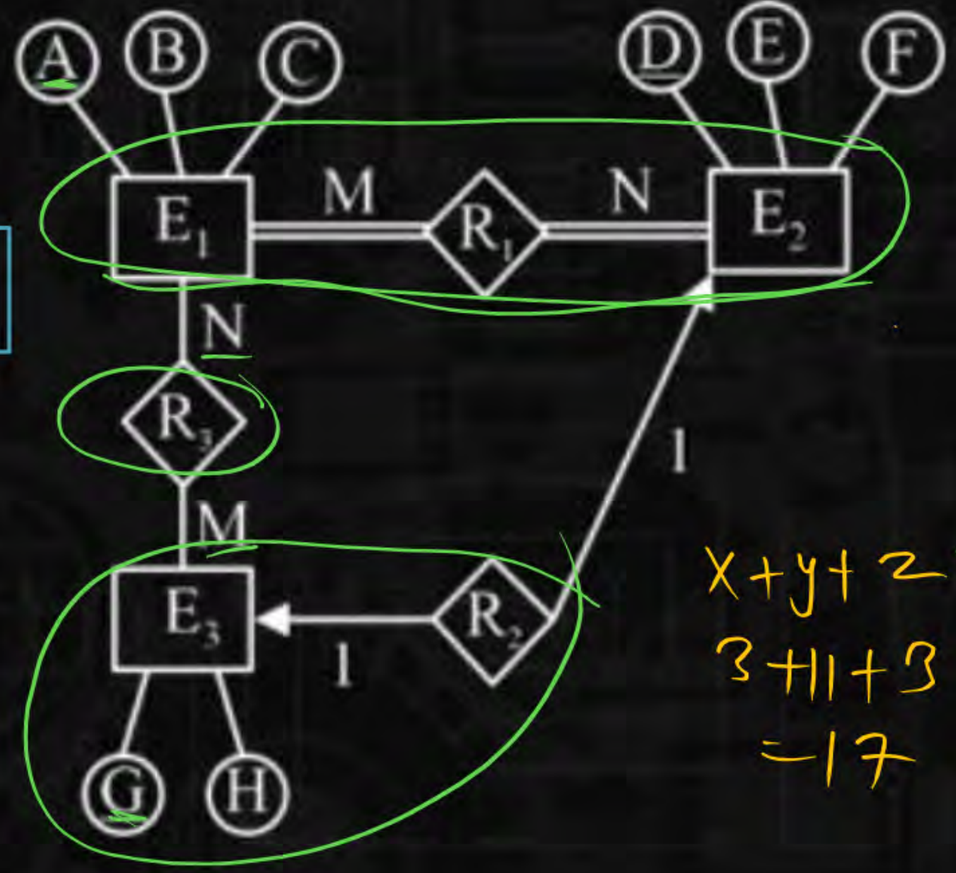
F.K F.K

3 Table $E_1(\underline{a_1}\ b_1)$ $R(\underline{a_1\ a_2})$ $E_2(\underline{a_2}\ b_2)$

Q.4 [NAT]

Consider the following ER model:

Assume X is the minimum number of tables, Y is the total number of attributes in relational tables and Z is the minimum number of foreign key, then find the value of X + Y + Z? (17) Ans



Ans (17)

$E_1R_1E_2$ (A B C D E F)

R_3 (A G)

E_3R_2 (G H D)

X = 3

y = 11

z = 3

X + y + z

3 + 11 + 3

= 17

3 Tables

Q.5

[MCQ]

Consider the following ER diagram:

How many total attributes required for the minimized relations of the above ER diagram?

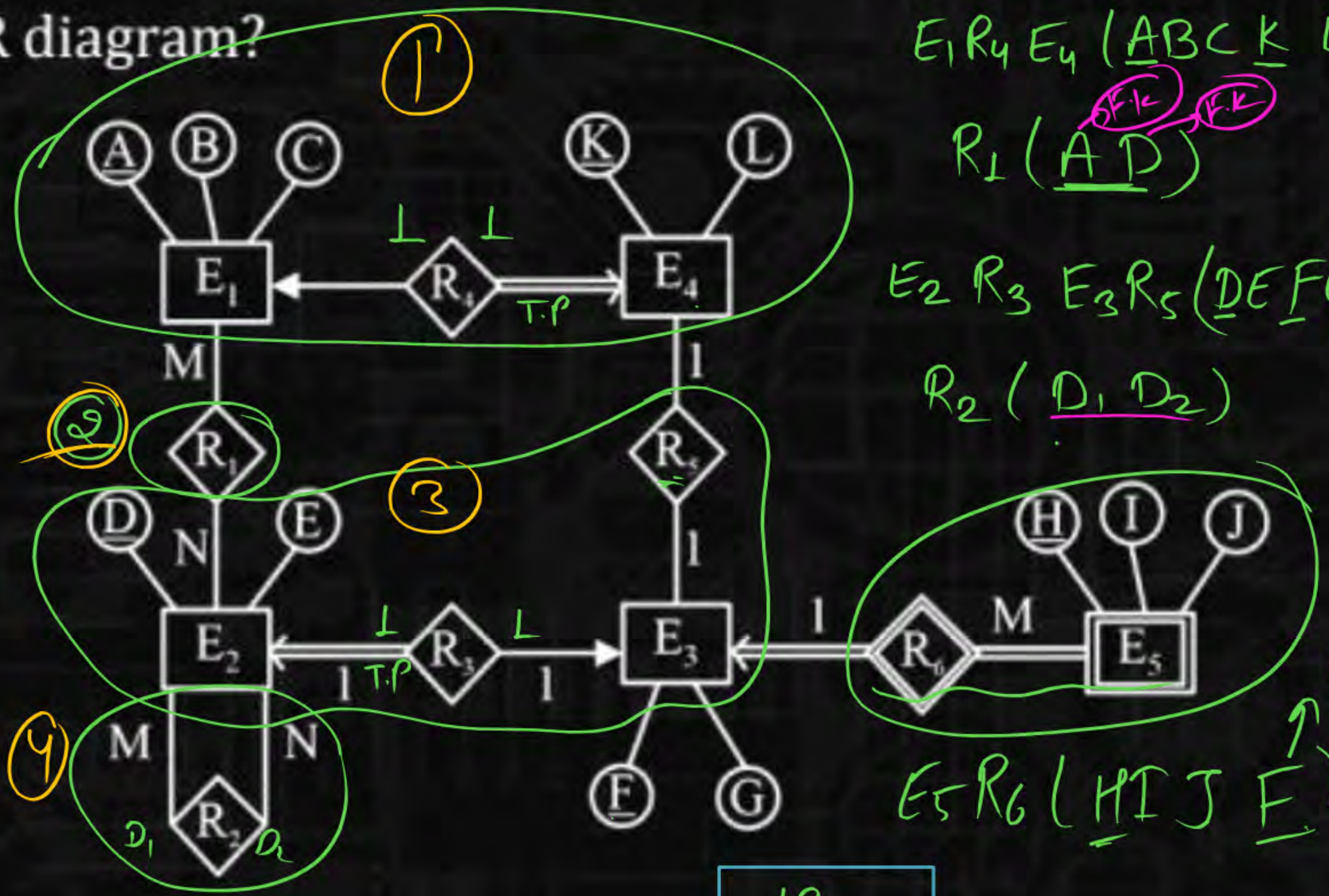
A. 14

B. 15

C. 18

D. None of these

Ans (C)



E1 R4 E4 (A B C K L)

R1 (A D)

E2 R3 E3 R5 (D E F G K)

R2 (D1 D2)

E5 R6 (H I J E)

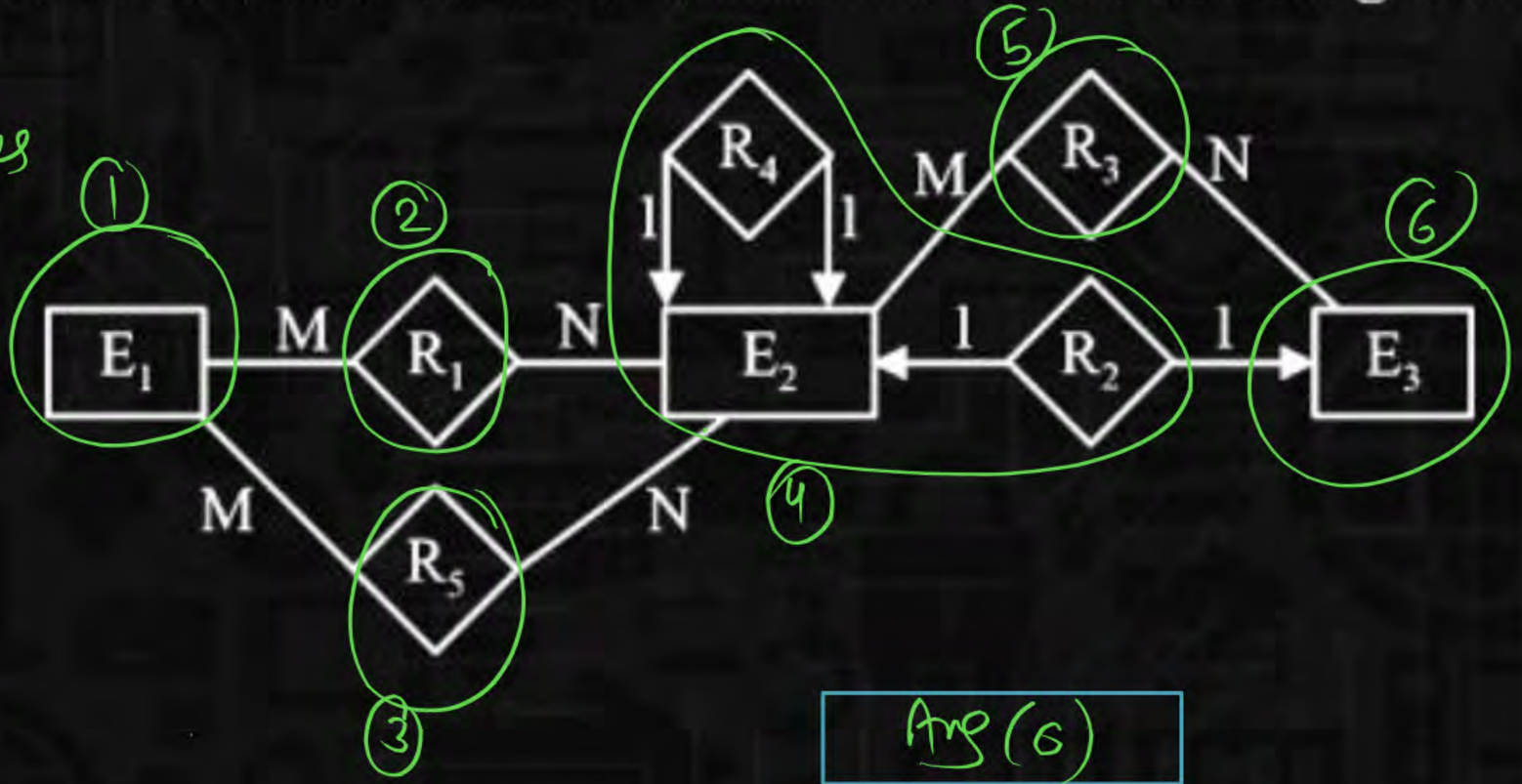
18

Q.6

[NAT]

Consider the following ER diagram

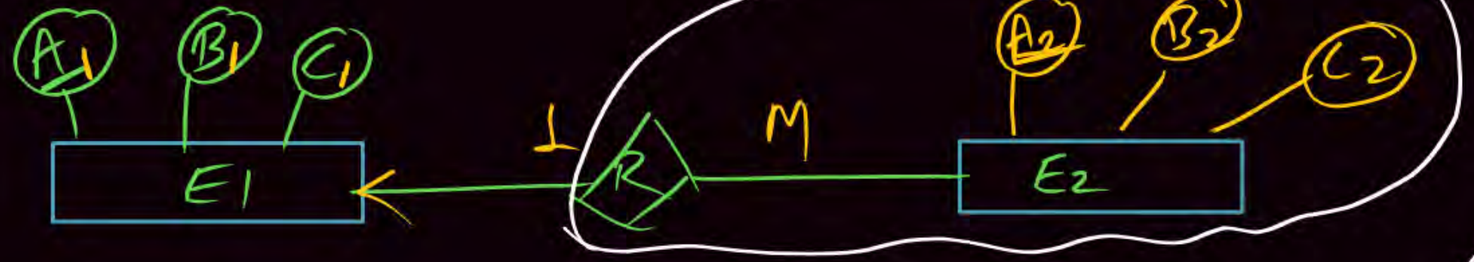
Total number of RDBMS table in the above diagram?



6 Tables

① E_1
② R_1
③ R_5
④ $R_4 E_2 R_2$
⑤ R_3
⑥ E_3

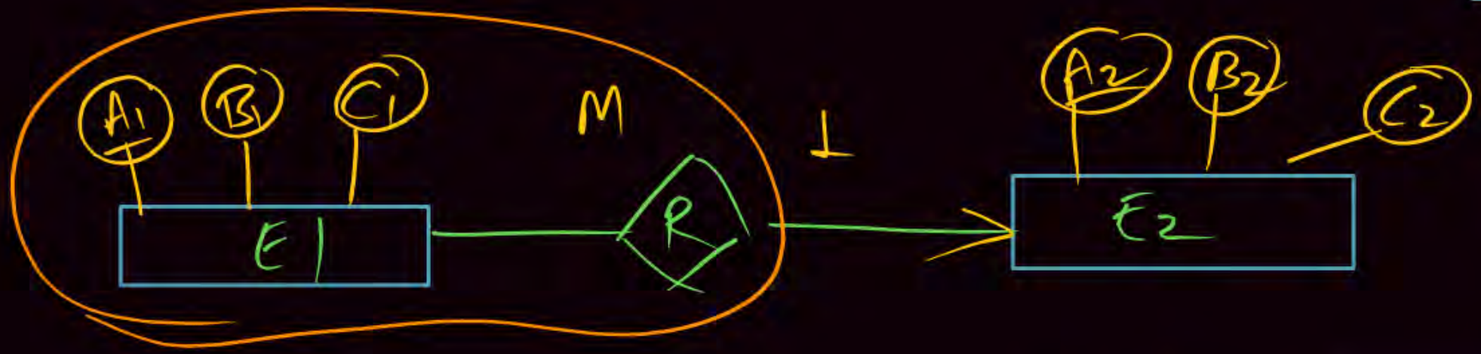
Ans (6)



2 Table

E1 (A1 B1 C1)

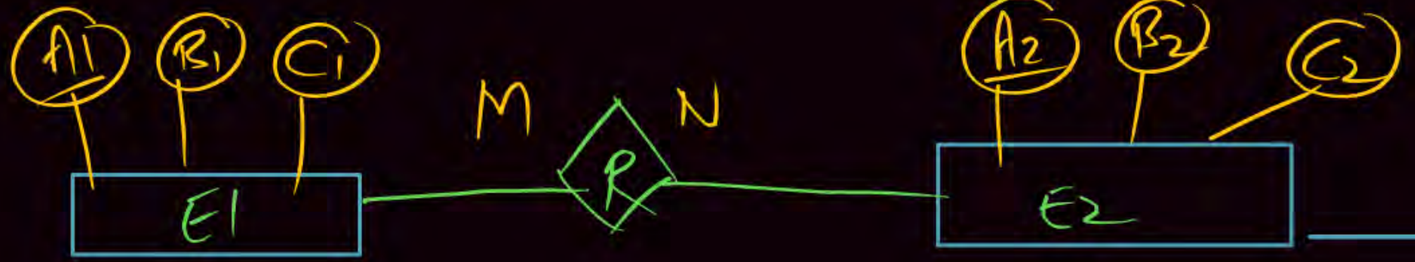
RE2 (A2 B2 C2 A1) F.K



2 Table

E1R (A1 B1 C1 A2) F.K

E2 (A2 B2 C2)



3 Tables F.K F.K

E1(A1 B1 C1) R(A1 A2) E2(A2 B2 C)

2 Table

E1R(A1 B1 C1 A2) E2(A2 B2 C2)

OR

E1(A1 B1 C1) & RE2(A2 B2 C2 A1) F.K

Q.7

[MCQ]

Consider the following ER model:

If 'x' entries in E_1 and 'y' entries in E_2.

How many entries in relation set (R)?

A. Exactly y

B. At most x

C. Exactly x

D. at least x and at most m

E1

X entries

E2

y entries

Ans [C]


THANK YOU GW
SOLDIERS !