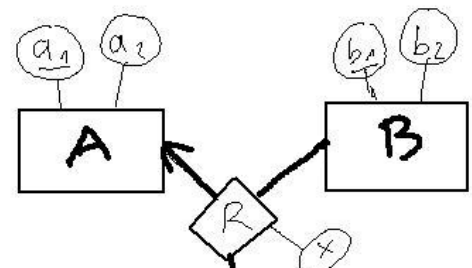


- 1) The metadata stored in the data dictionary of a DBMS
  - a) **contains information describing the conceptual schema of the database**
- 2) Given a relational schema R, and a decomposition of R into R1 and R2, and given any r(R), r1(R1) and r2(R2), a decomposition is a LOSSY JOIN (the opposite of lossless) decomposition due to
  - a) **r1 |x| r2 (natural join) has MORE tuples than the original r**
- 3) Given a referential integrity with a referenced relation r1 and primary key K, and a referencing relation r2 with foreign key  $\alpha$ 
  - a) **None of the others is right**
- 4) Given the relational schema R = { A, B, C, D, E }, and any possible r(R) relation
  - a) **{ A, B, C, D, E } is a superkey**
- 5) A relation that is in 3NF
  - a) **None of the others is right**
- 6) The exclusion constraint  $\oplus$  in the E-R model
  - a) **Can be used together with the maximum cardinality constraint**
- 7) Given R = (A, B, C, D, E) and a set of dependencies F = { AB  $\rightarrow$  DE, E  $\rightarrow$  B }
  - a) **R is not in BCNF nor in 3NF**

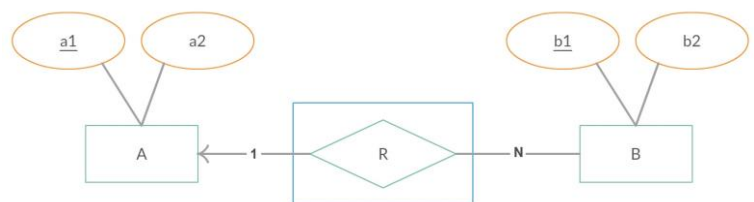
8) Given the following Entity-Relationship diagram, in the usual mapping into tables mechanisms, a valid mapping is (x attribute is NOT part of the key for R):

- a) **A(a1, a2) B(b1, b2) C(c1, c2) R(a1, b1, c1, x) R key: b1+c1**



9) Given this Entity-Relationship (A, B – aggregated R relationship), a valid mapping into tables of the diagram is:

- a) **A(a1,a2) B(b1,b2,a1)**



10) Given F = { A B  $\rightarrow$  D, B C  $\rightarrow$  A, A C  $\rightarrow$  B, C  $\rightarrow$  D }, a canonical (minimal) cover of this set of functional dependencies is

- a) **F is already a canonical (minimal) cover**