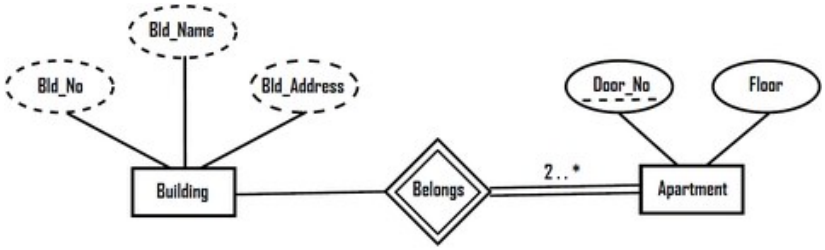
socrative

Name _____
Date _____

Databases - 3

Score _____

1.



Consider the E-R diagram in the figure. It represents the details about real-estate properties of a company. The diagram has been prepared by a novice student without much understanding of Relational Data Model. I doubt that there might be some errors in the E-R diagram. List up the problems that you can identify from it.

(A) All the attributes of the entity set *Building* cannot be of derived type (shown with dashed ellipses). There is no other attribute from which they will be derived.

(B) If *Belongs* is weak relation (shown with double diamond), either of the *Building* or *Apartment* has to be a weak entity set (shown with double rectangle).

(C) The mapping cardinality constraints (shown with 2..*) and participation constraints (shown with double line) are conflicting for the entity set *Apartment*. If the minimum cardinality constraint is 2 it cannot be a total participation.

(D) If there is a discriminating attribute (shown with dashed underline) for the entity set *Apartment*, then there has to be a set of attributes that can serve as the primary key (shown with underline) for the related entity set *Building*.

(E) All of the above.

2.

Complex Constraint Label	Interpretation
(i) $E1$-R labeled as 1..1, R-$E2$ labeled as 1..1	(a) $E1$ and $E2$ both have total participation in all possible relationships
(ii) $E1$-R labeled as 1..*, R-$E2$ labeled as 1..*	(b) Many to one relationship from $E2$ to $E1$ only
(iii) $E1$-R labeled as 0..1, R-$E2$ labeled as 0..*	(c) $E1$ and $E2$ both participate in only one relationship and that is total
(iv) $E1$-R labeled as 0..*, R-$E2$ labeled as 0..1	(d) Many to one relationship from $E1$ to $E2$ only

As you may recall, complex constraints in entity-relationship data model can be labeled along the edges between an entity set and a binary relationship set. Suppose a pair of entity sets $E1$ and $E2$ is connected via the binary relationship R. Match the labels of complex constraints in the left side of the figure with their interpretations on the right side.

(A) (i) - (c), (ii) - (a), (iii) - (b), (iv) - (d).

(B) (i) - (a), (ii) - (c), (iii) - (b), (iv) - (d).

(C) (i) - (c), (ii) - (a), (iii) - (d), (iv) - (b).

(D) (i) - (a), (ii) - (c), (iii) - (d), (iv) - (b).

3. There might exists an attribute connected to no entity set but only to a relation in an entity-relationship diagram.

(T) True

(F) False

4. Complex constraints can be defined on three entity sets associated by a single relationship set.

(T) True

(F) False

5. A relationship set can be defined between an entity set with itself.

(T) True

(F) False