Tutorial 2 Answer

1. Theory

Answers

Ex 1.

1.i 2d. 3.b. 4j. 5h. 6l. 7e. 8c 9g. 10a. 11.f. 12.k

Ex 2. Contrast the following terms:

a. *Stored attribute; derived attribute* A stored attribute is one whose values are stored in the database, while a derived attribute is one whose values can be calculated or derived from related stored attributes.

b. *Simple attribute; composite attribute* A simple attribute is one that cannot be broken down into smaller components, while a composite attribute can be broken down into component parts.

c. *Entity type; relationship type* An entity type is a collection of entities that share common properties or characteristics, while a relationship type is a meaningful association between (or among) entity types.

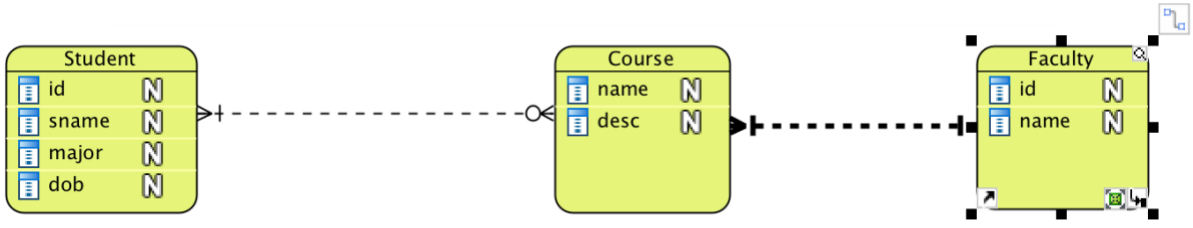
d. *Strong entity type; weak entity type* A strong entity type is an entity that exists independently of other entity types, while a weak entity type depends on some other entity type.

e. *Degree; cardinality* The degree (of a relationship) is the number of entity types that participate in that relationship, while cardinality is a constraint on the number of instances of one entity that can (or must) be associated with each instance of another entity.

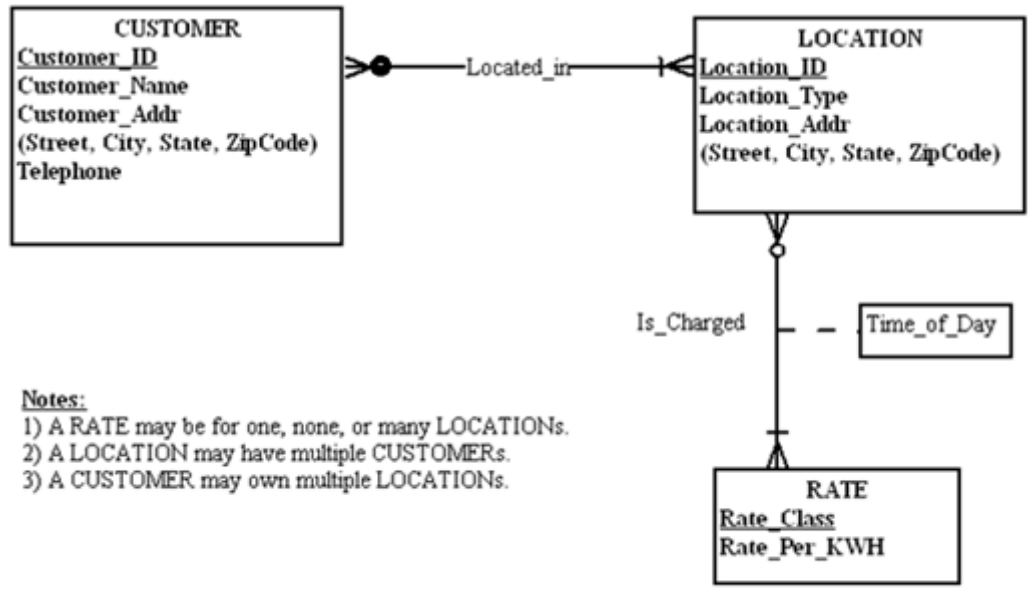
f. *Required attribute; optional attribute* A required attribute must have a value for each entity instance, whereas an optional attribute may not have a value for every entity instance.

g. *Composite attribute; multivalued attribute* A composite attribute has component parts that give meaning, whereas a multivalued attribute may take on or more values for an entity instance.

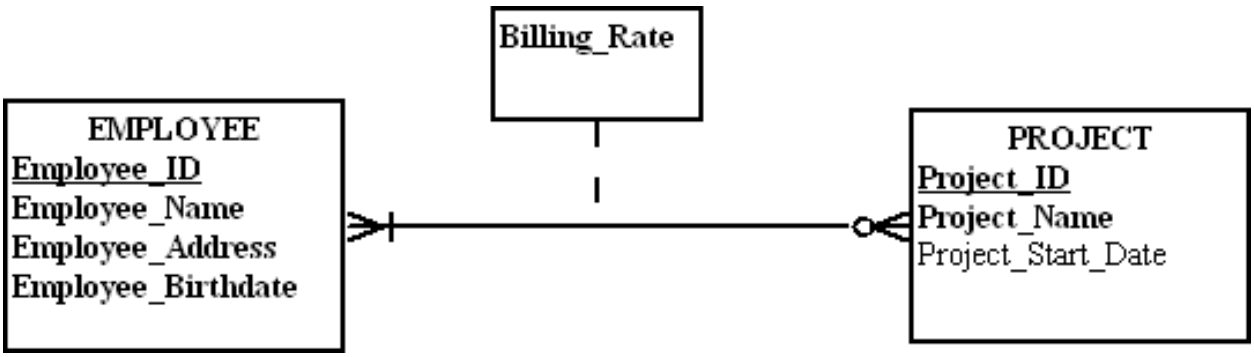
Ex 3



Ex 4


CUSTOMER
Customer_ID
Customer_Name
Customer_Addr
(Street, City, State, ZipCode)
Telephone
Located_in
LOCATION
Location_ID
Location_Type
Location_Addr
(Street, City, State, ZipCode)
Is_Charged
Time_of_Day
Notes:
1) A RATE may be for one, none, or many LOCATIONs.
2) A LOCATION may have multiple CUSTOMERs.
3) A CUSTOMER may own multiple LOCATIONs.
RATE
Rate_Class
Rate_Per_KWH

Ex 5.


Billing_Rate
EMPLOYEE
Employee_ID
Employee_Name
Employee_Address
Employee_Birthdate
PROJECT
Project_ID
Project_Name
Project_Start_Date