

Database Design

4-1: Supertypes and Subtypes

Practice Activities

Objectives

- Define and give an example of a subtype
- Define and give an example of a supertype
- State the rules relating to entities and subtypes; give examples of each
- Apply the rules of supertype and subtype by evaluating the accuracy of ER diagrams that represent them
- Apply the rules of supertype and subtype and include them in a diagram when appropriate

Vocabulary

Identify the vocabulary word for each definition below.

	All subtypes are listed without omission.
	A means of classifying an entity that has subtypes.
	Something an entity may be split into based on common attributes and/or relationships.
	Each instance of a supertype is an instance of only one possible subtype.

Try It / Solve It

1. Identify which item off of the following list is the supertype entity and which items are the subtypes of that entity.

Amputation = _____

Visual Impairment = _____

Hearing Impairment = _____

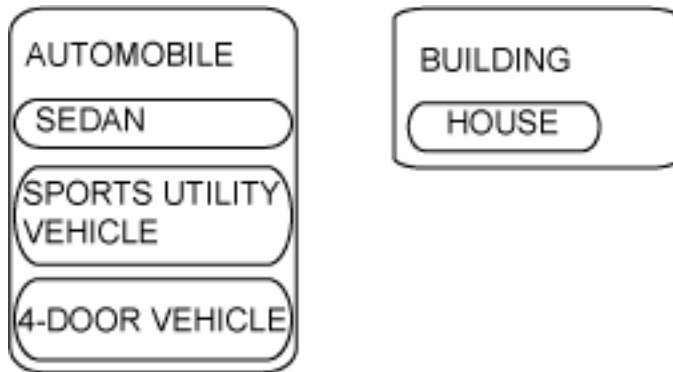
Disability = _____

Paralysis = _____

2. For each rule, indicate whether the rule is applicable to supertypes or subtypes.

_____	They share common attributes
_____	They inherit all attributes and relationships of the entity
_____	It never exists alone
_____	It contains the attributes held in common by all instances

3. Name three things you consider when modeling supertypes and subtypes.
4. Find the incorrect subtypes in the illustration. Explain why you think the subtype is incorrect. Adjust the model to improve it.



5. Read the following scenario and construct an ERD that contains at least two subtypes of the entity PRODUCT. Show clearly which attributes belong to the entity supertype, and which belong to the subtypes. Identify a UID for the entity.

“Our shops sell several kinds of women’s clothing, including dresses, skirts and blouses. Of course each product has a name, a description, and a price. Oh, and sizes too: all products have a waist size. Dresses and skirts have a hem length but blouses don’t. Dresses and blouses have a chest size, but skirts don’t.”