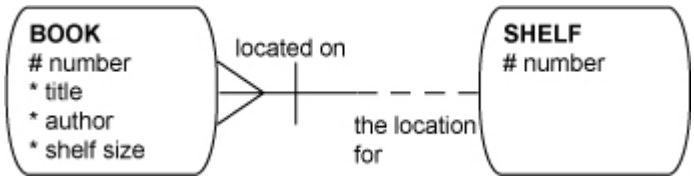
Database Design
6-3: Second Normal Form
Practice Solutions
Vocabulary

Directions: Identify the vocabulary word for each definition below.

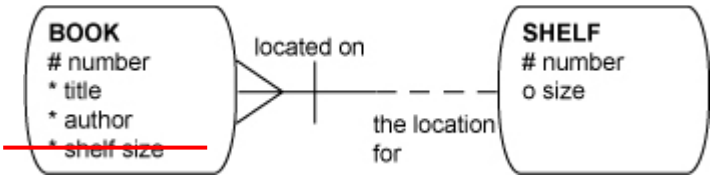
Second Normal Form (2NF)	The outcome of the second step of database normalization

Try It / Solve It

1. The UID of a library book includes its BOOK number and SHELF number. Does this ERD follow the rules of Second Normal Form? If you spot a violation, correct it.

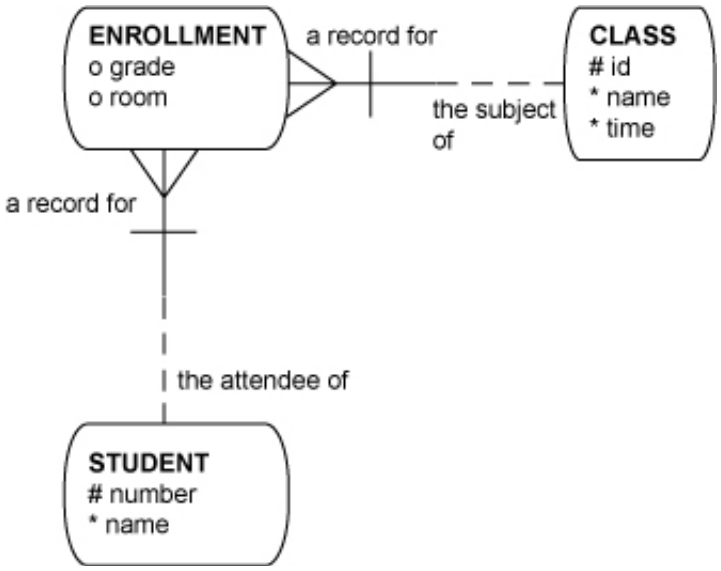


Solution: Give this example, if necessary: A BOOK UID is something like A961234G, where A96 refers to a SHELF number and 1234G is the BOOK number. No, it does not follow the rules of 2NF—shelf size belongs in the SHELF entity.

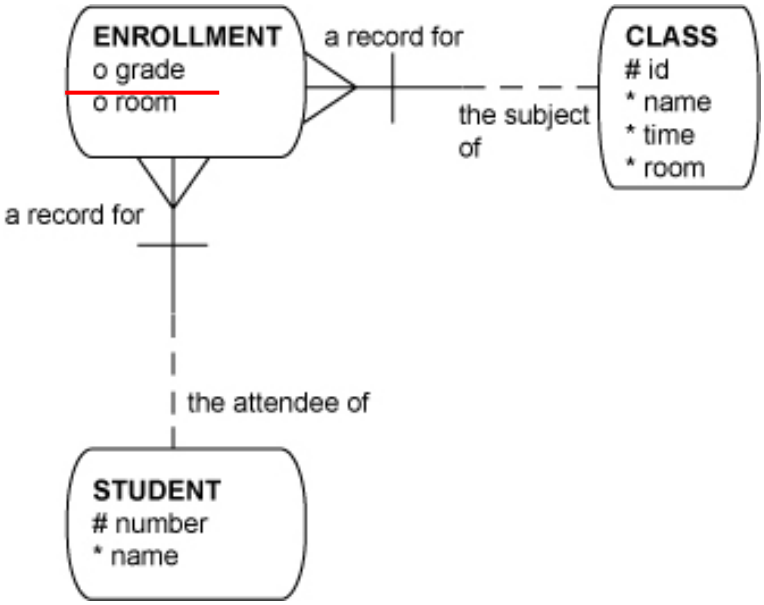


Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

2. Class Enrollment is the intersection entity that resolves the M:M between STUDENT and CLASS. Does the ERD follow the rules of Second Normal Form? If you spot a violation, correct it.

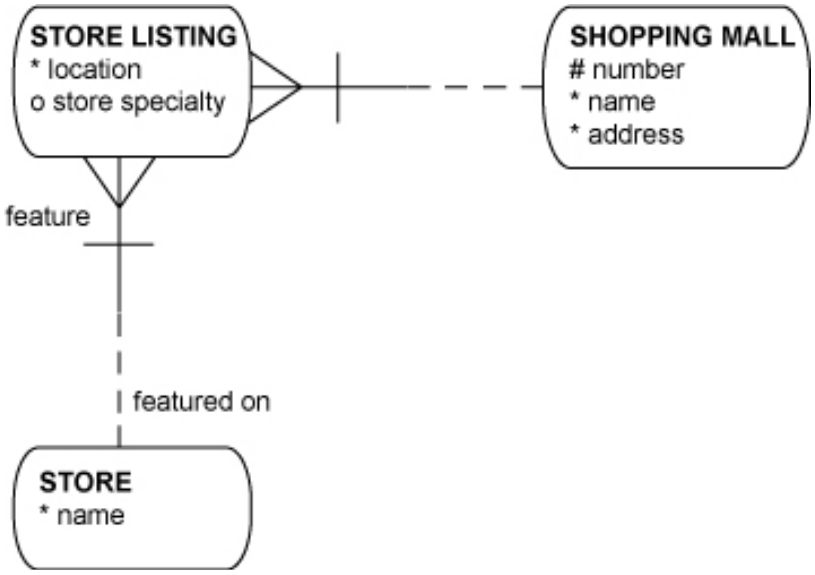


Solution: Review the UID of ENROLLMENT. It is the relationships to CLASS and STUDENT. Do you need to know both the CLASS id and the STUDENT id to find out the room the class is being held in?

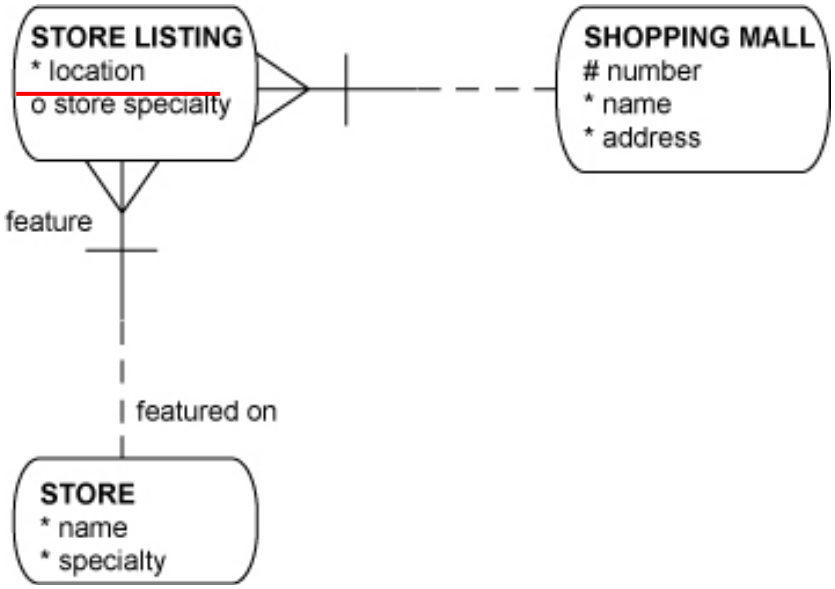


Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

3. A store can be located in several shopping malls, and a shopping mall may house several stores. To locate a particular store in a specific neighborhood, you will need to know the name and address of the nearby shopping mall, plus the name of the store. Does the ERD follow the rules of Second Normal Form? If you spot a violation, correct it.



Solution: Give an example, if necessary: There are several [give the name of a store with multiple locations in your area – such as a specific sporting-goods chain or bakery chain or other type of chain store] stores. To find a specific one in your vicinity, you have to know the malls in the area. This example violates 2NF because the store specialty (books, shoes, etc.) depends solely on the store.



Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.