

# Entity Relationship Modeling and ERDs

## Objectives

- Define the meaning of implementation-free as it relates to data models and database design implementation
- List the four goals of entity relationship modeling
- Identify an entity relationship diagram (ERD)

## Vocabulary

**Directions: Identify the vocabulary word for each definition below.**

1. \_\_\_\_\_ Not dependent on the physical model.
2. \_\_\_\_\_ A drawing that is used to represent a data model.

## Try It:

1. True or False: To be described as implementation-free a data model must be changed to accommodate the database system onto which it is built.

2. True or False: To be described as implementation-free a data model must not change to accommodate the database system onto which it is built.

3. List four goals of entity relationship modeling.

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4. An \_\_\_\_\_ is a consistent tool that can be used to represent data requirements regardless of what type of database is used

5. Read the business scenario of a fast-food restaurant below:

We are a small fast food business. Our menu features food items that can be ordered by a customer. A customer places an order at the counter and indicates what food items he/she would like on that order.

Lately we've noticed that we have some regular customers, so we started asking them for information -- such as name and address, so we can mail them coupons when we have specials.

- a. Using the restaurant entities ORDER, FOOD ITEM, AND CUSTOMER, identify the attributes for each entity.
  - b. Where possible, indicate whether the attribute is mandatory or optional.
  - c. Where possible, pick out the UUIDs for each entity
6. Name all the different kinds of information that appear on this Lunch Room Data Report.

| Date     | Student Sales | Faculty/Staff Sales | Hamburger/Taco Bar | Pizza Bar | Soup/Salad Bar |
|----------|---------------|---------------------|--------------------|-----------|----------------|
| 12/02/03 | 497           | 23                  | 335                | 122       | 63             |
| 12/03/03 | 440           | 19                  | 285                | 126       | 48             |
| 12/04/03 | 447           | 30                  | 301                | 126       | 50             |
| 12/05/03 | 442           | 27                  | 325                | 107       | 37             |
| 12/06/03 | 330           | 12                  | 229                | 83        | 30             |

- a. • What does this report mean?
- b. • What data was collected?
- c. • What information does this table provide?
- d. • How do you think these data are used?
- e. • Think of five conclusions based on the data provided.
- f. • Think of three questions that you would ask about the data provided