

TOPICS

Fundamentals

Structured and Object-Oriented Analysis

Formal and Automated Techniques

Data Modeling

Data Objects, Attributes and Relationships

OOA concepts arose out of data-intensive analysis techniques (called *data modeling* or *information modeling*) that have been in existence for years (especially in database systems).

Recent uses of data modeling are seen in defining data formats for interchanging data between CAD systems, computers, and manufacturing organizations.

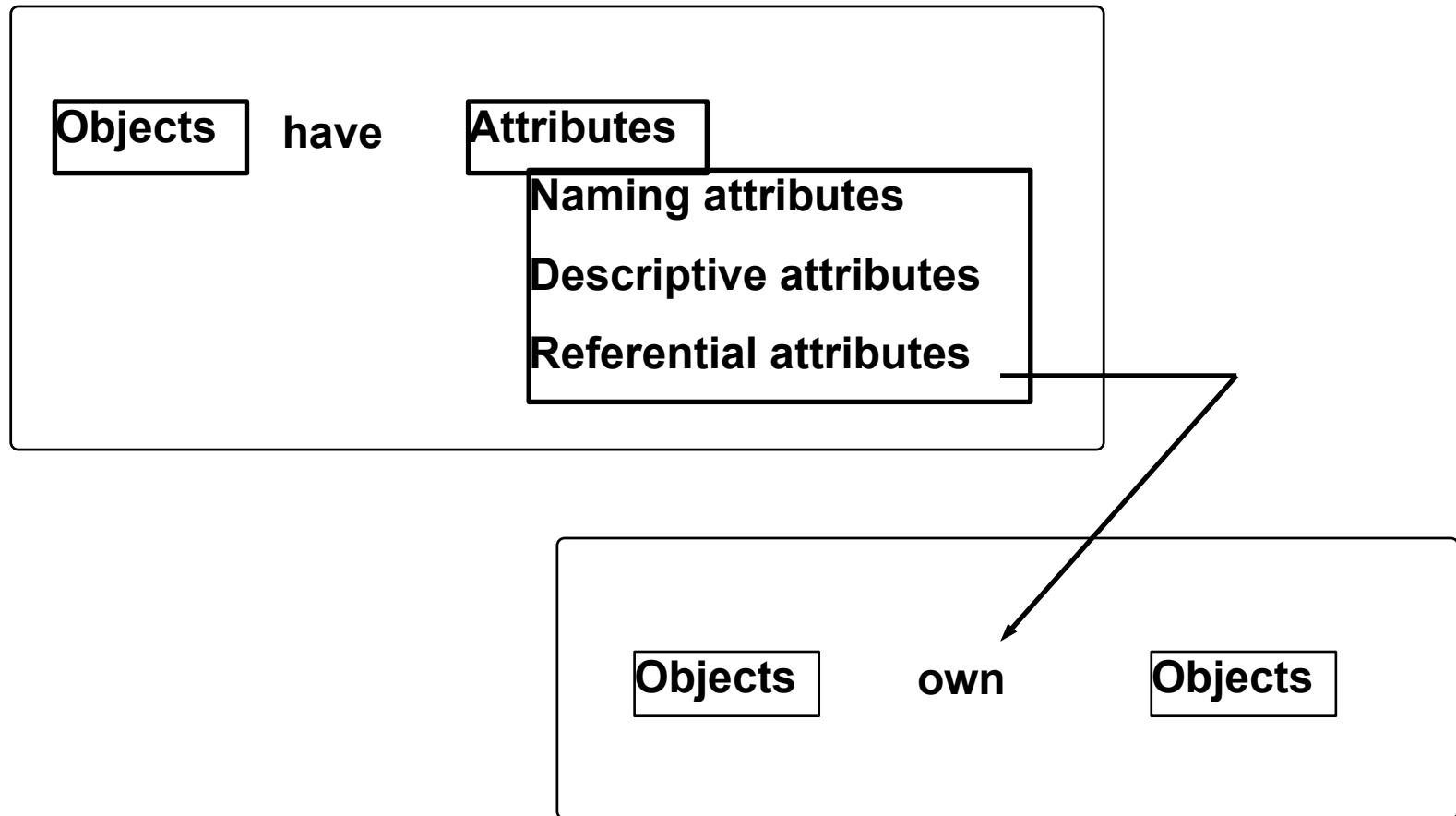
Some terms:

schema - data model used in databases

protocol - data model used in digital communications

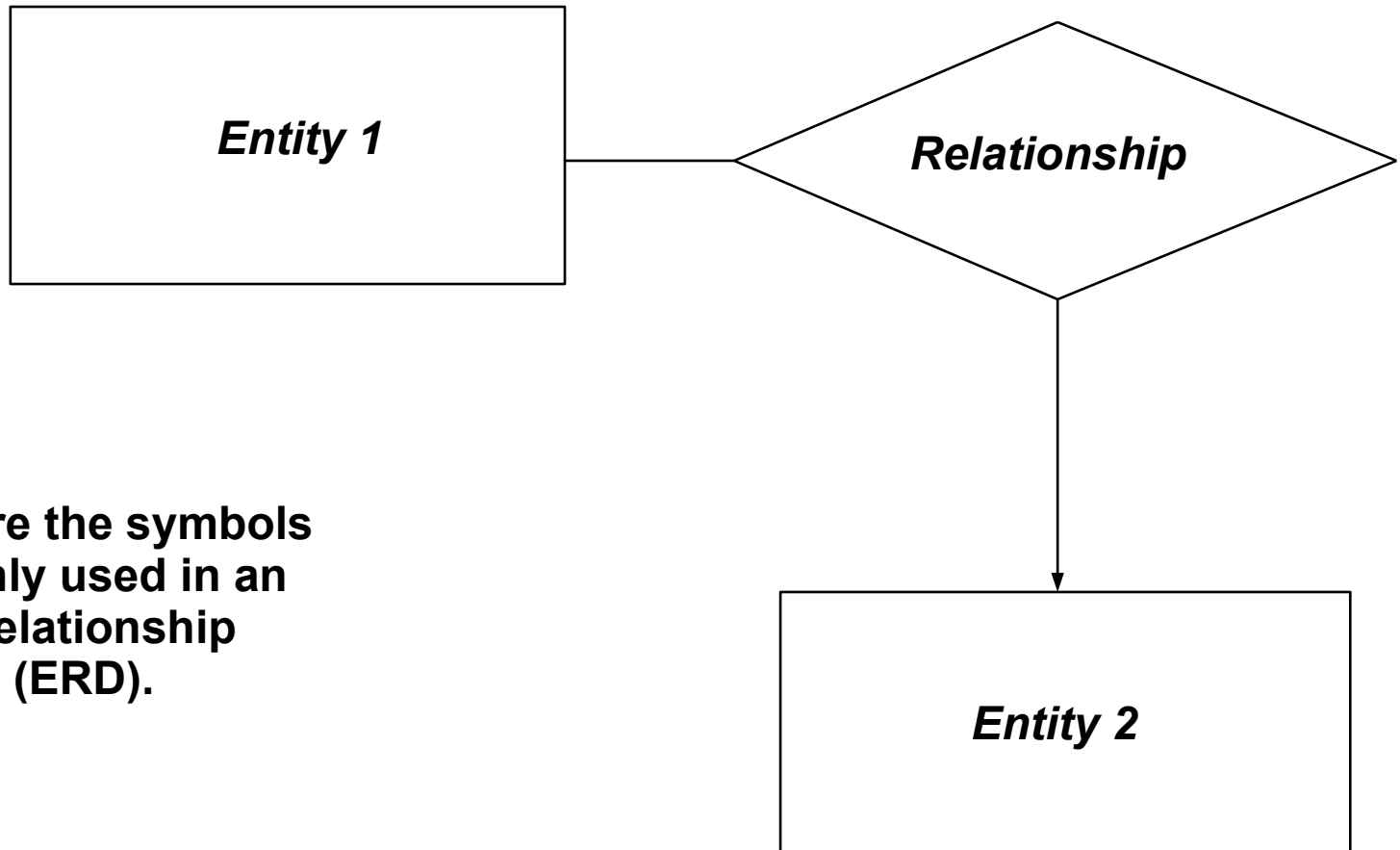
framework - data models used to interchange data between
CAD systems and manufacturing organizations

Data Objects, Attributes, and Relationships



Data Modeling

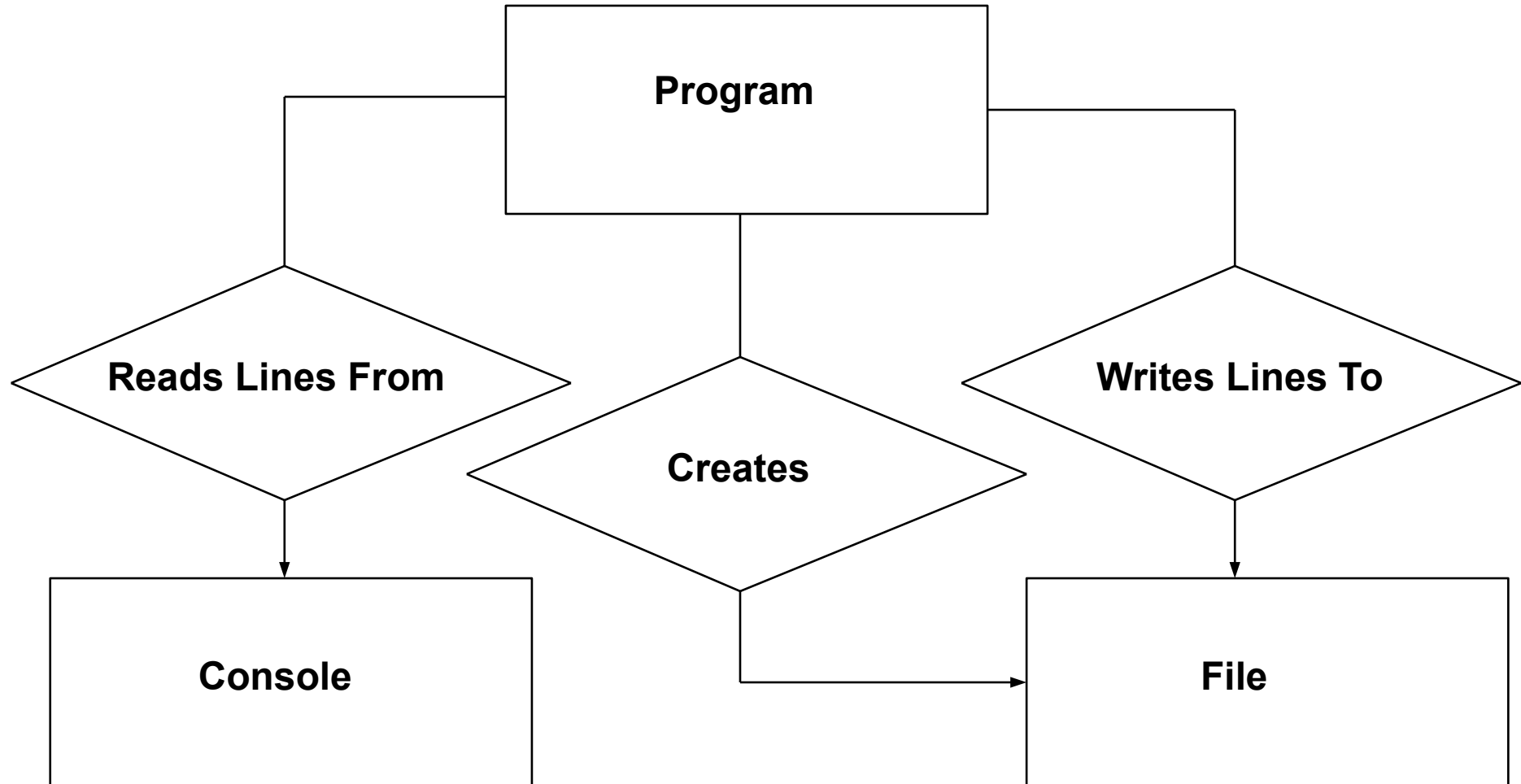
Entity-Relationship Diagrams



**These are the symbols
commonly used in an
Entity-Relationship
Diagram (ERD).**

Data Modeling, Continued

Entity-Relationship Diagrams - Example



Automated Tools

are often graphically-oriented

may provide consistency checking

support the development of the data dictionary

**usually support the development of DoD-
STD-2167A documentation**