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1. **Deference b/w logical & physical model?**

- Logical model shows what the system must do while
- Physical model describes how the system will be constructed.

2. **A data flow diagrams (DFD)** is a graphically show the movement and transformation of data in the information system but does not show program logic or processing steps
3. **N.B:** A set of DFDs provides a logical model that shows *what* the system does, not *how* it does it.
4. **N.B:** Contain the business logic, also called **business rules**
5. **DFDs use four basic symbols that represent**
    - Processes
    - Data flows
    - Data stores
    - Entities.
6. **How many Items that DFD can represent and give example?**
    - A data flow in a DFD represents one or more data items.
        - For Example: **a single data item like** (a student ID number) or
        - **a set of data** (class roster with student ID numbers, names, and registration dates for a specific class).
7. **Tell the Three data flow and process combinations that you must avoid?**
    - **Three must avoid in DFD Symbols are:**

a. **Spontaneous generation** = means has no input
b. **Black hole** = means has no outputs
c. **Gray hole** = means the input is insufficient to generate the output

8. **N.B. Violations of the rule:** That a data store must have at least one incoming and one outgoing data flow.
9. **Entity Symbols are: -**
    - Terminators: entities also are called **terminators**, B/C they are data origins or final destinations
    - Source: supplies data to the system
    - Sink: receives data from the system
10. **List Three-step process of Creating a Set of DFDs based on your fact-finding results?**
    a. Step 1: Draw a context diagram
    b. Step 2: Draw a diagram 0 DFD
    c. Step 3: Draw the lower-level diagrams
11. **Define data dictionary, or data repository?**
    - data dictionary: is a central storehouse of information about the system's data

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12. why an analyst uses Data dictionary?

- An analyst uses the data dictionary to collect, document, and organize specific facts about the system

13. N.B. Data elements are combined into records, also called data structures

14. List the attributes usually are recorded and described when Documenting the Data Elements?

- The following attributes usually are recorded and described:
- Data element name and label
- Alias
- Type and length
- Default value
- Acceptable values - Domain and validity rules
- The following attributes usually are recorded and described
- Source
- Security
- Responsible user(s)
- Description and comments

15. three logical structures or control structures are:

- Sequence
- Selection
- Iteration – looping

16. Data and process modeling involves three main tools that are:

- data flow diagrams
- data dictionary, and
- process descriptions