Exercise 4

AIM: To prepare DATA FLOW DIAGRAM for any project.

REQUIREMENTS:

Hardware Interfaces

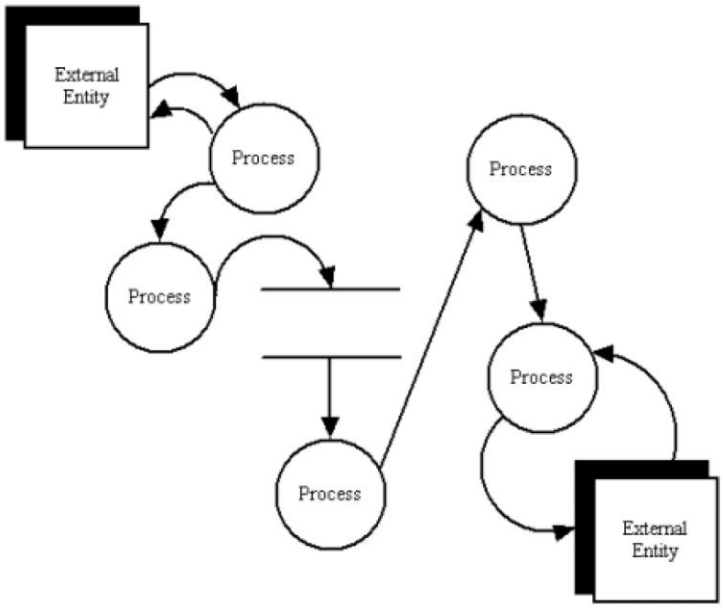
- Pentium(R) 4 CPU 2.26 GHz, 128 MB RAM
- Screen resolution of at least 800 x 600 required for proper and complete viewing of screens. Higher resolution would not be a problem.
- CD ROM Driver

Software Interfaces

- Any window-based operating system (Windows 95/98/2000/XP/NT)
- WordPad or Microsoft Word

THEORY

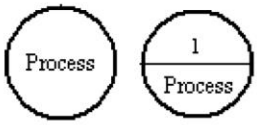
Data flow diagrams illustrate how data is processed by a system in terms of inputs and outputs.



Data Flow Diagram Notations

You can use two different types of notations on your data flow diagrams: Yourdon & Coad or Gane & Sarson.

Process Notations



Yourdon and Coad
Process Notations

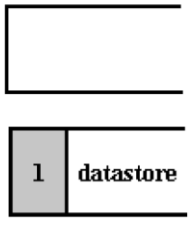
Process

Gane and Sarson
Process Notation

A process transforms incoming data flow into outgoing data flow.

Datastore Notations

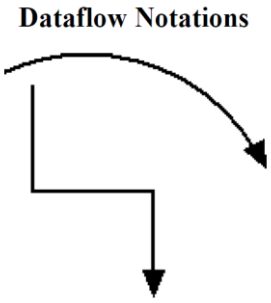
Yourdon and Coad
Datastore Notations



Gane and Sarson
Datastore Notations

DataStore

Datastores are repositories of data in the system. They are sometimes also referred to as files.



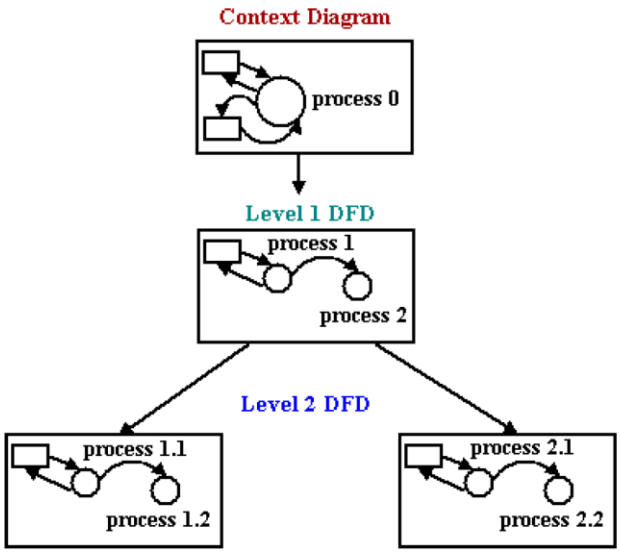
Dataflow

Dataflows are pipelines through which packets of information flow. Label the arrows with the name of the data that moves through it.

HOW TO DRAW DATA FLOW DIAGRAMS (cont'd)

Data Flow Diagram Layers

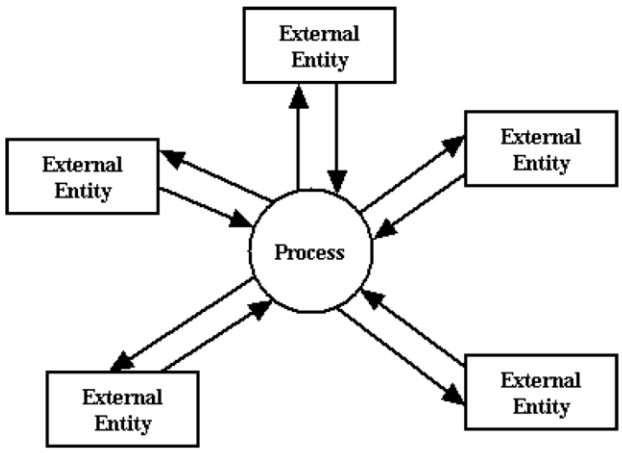
Draw data flow diagrams in several nested layers. A single process node on a high level diagram can be expanded to show a more detailed data flow diagram. Draw the context diagram first, followed by various layers of data flow diagrams.



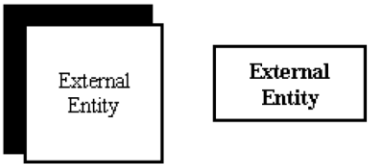
The nesting of data flow layers

Context Diagrams

A context diagram is a top level (also known as Level 0) data flow diagram. It only contains one process node (process 0) that generalizes the function of the entire system in relationship to external entities.



External Entity Notations

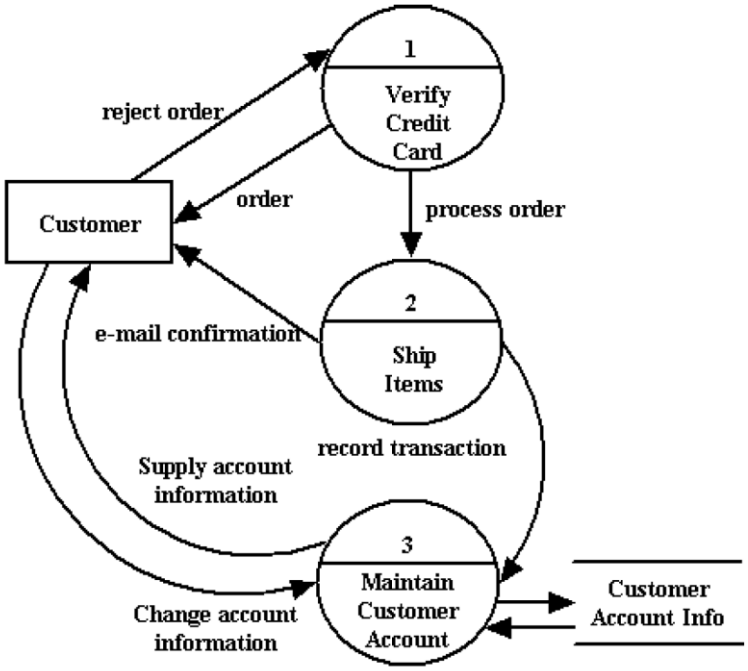


External Entity

External entities are objects outside the system, with which the system communicates. External entities are sources and destinations of the system's inputs and outputs.

DFD levels

The first level DFD shows the main processes within the system. Each of these processes can be broken into further processes until you reach pseudocode.



An example first-level data flow diagram