NEA Documented Design

Structure Charts, System Flow Diagrams, Data Flow Diagrams

Documented Design

Maximum 12 marks:

“Fully or nearly fully articulated design for a real problem, that describes how all or almost all of the key aspects of the solution/investigation are to be structured/are structured.”

Documented Design

There is plenty of flexibility in how you do this. You might include some (but probably not all) of the following things:

- Database structure design
- Identification of any object model
- Identification and explanation of key algorithms to be used
- File structures and processing
- User interface design
- Pseudo-code
- Samples of SQL statements
- Use of libraries and integration to solution
- Data dictionary

Documented Design

Questions the marker/examiner needs to answer:

- Is the structure of the technical solution described clearly?
- Do you understand how the solution will work?
- Is the design well communicated
- If the project uses ‘data’ is this well defined and the processing described clearly?

Documented Design

Required documentation for ‘Documented design’:

The type of system that a student is developing will determine the aspects of the system that need to be covered in the documented design. It is anticipated that for all systems, a high-level overview of how different parts of the system interact would be useful. This may be:

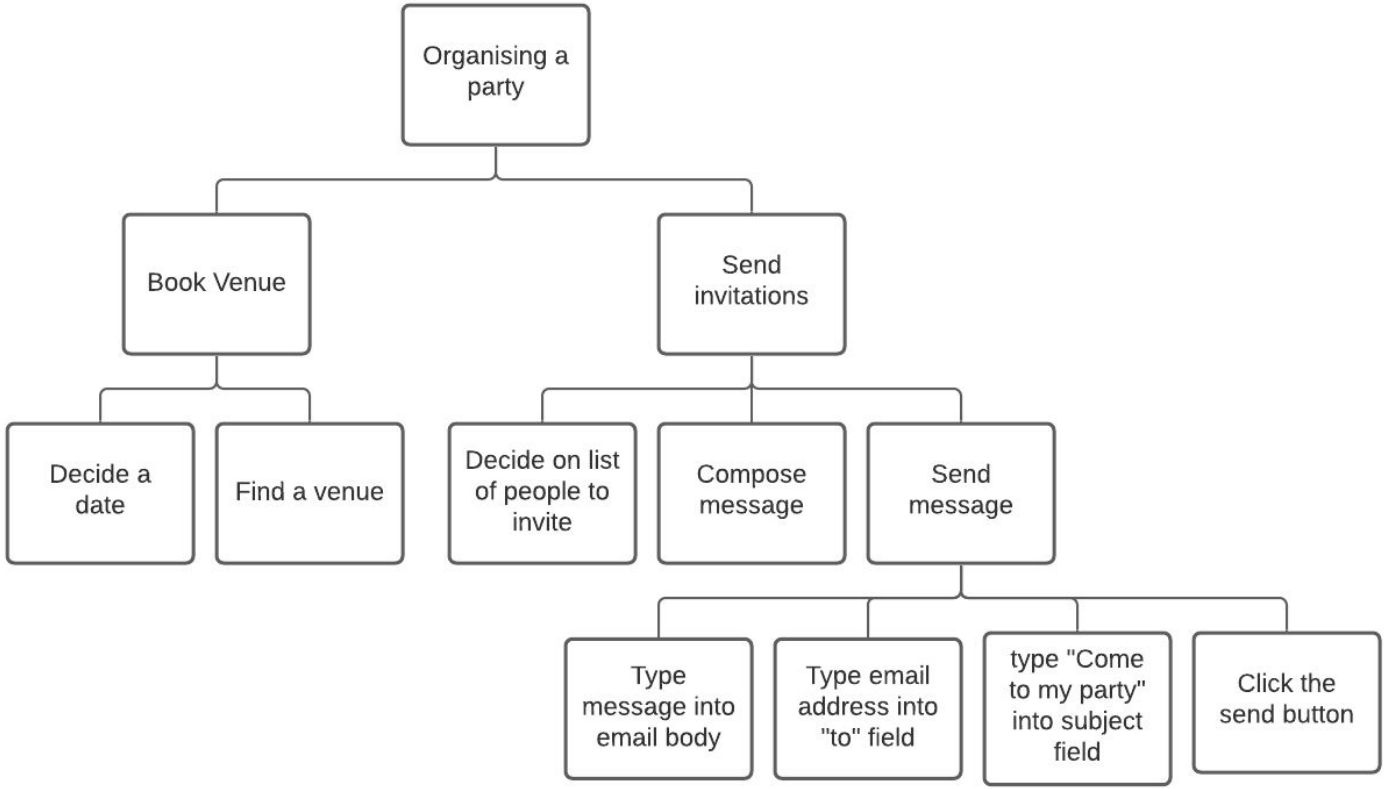
- structure/hierarchy chart
- A system flowchart
- A data flow diagram, or object/class diagrams, accompanied by any further explanation that is helpful

Structure Chart

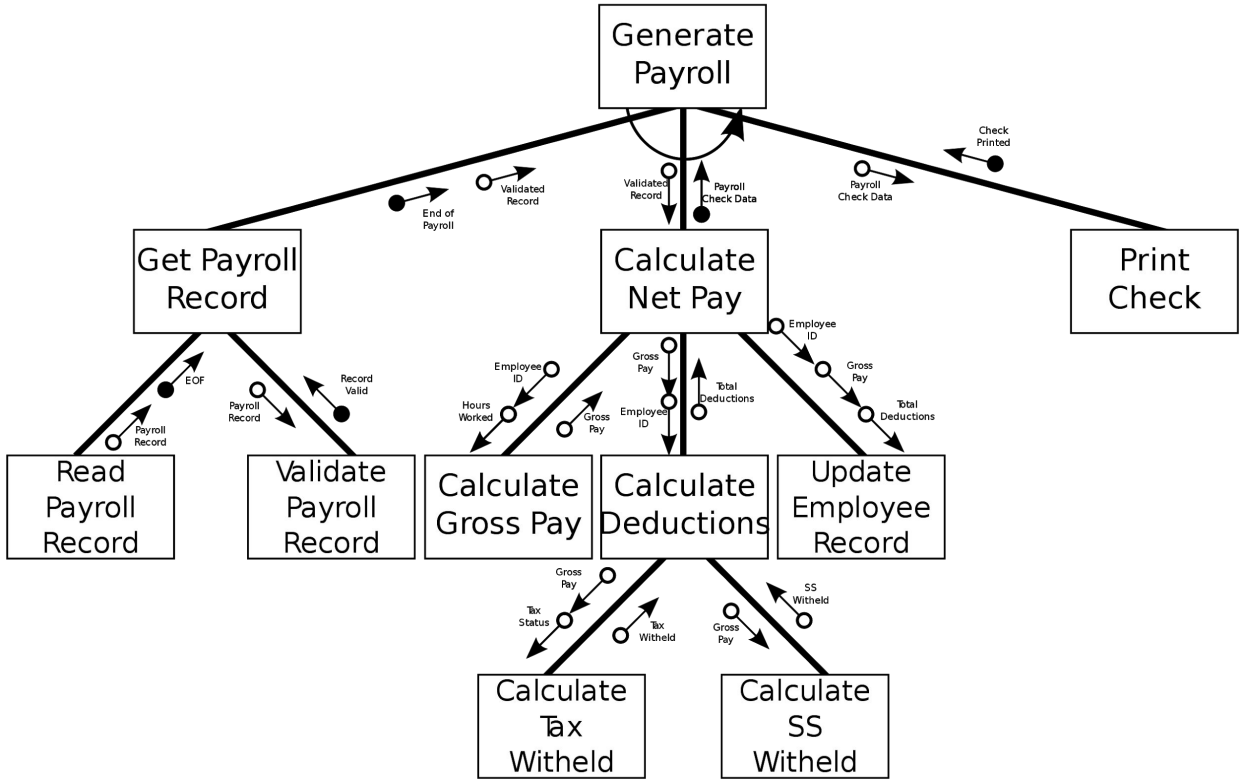
https://www.geeksforgeeks.org/software-engineering-structure-charts/

Structure Chart represent hierarchical structure of modules. It breaks down the entire system into lowest functional modules, describe functions and sub-functions of each module of a system to a greater detail.

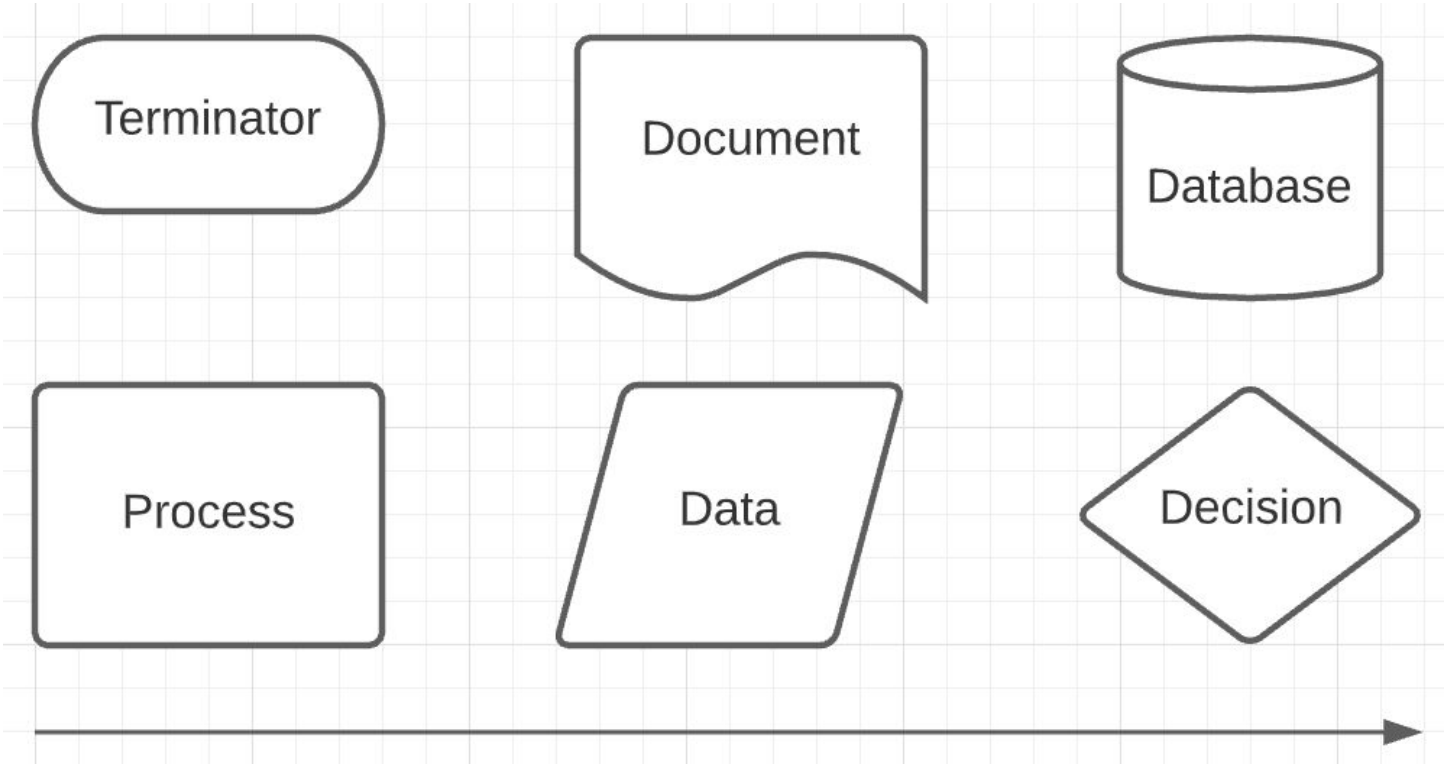
Structure Chart



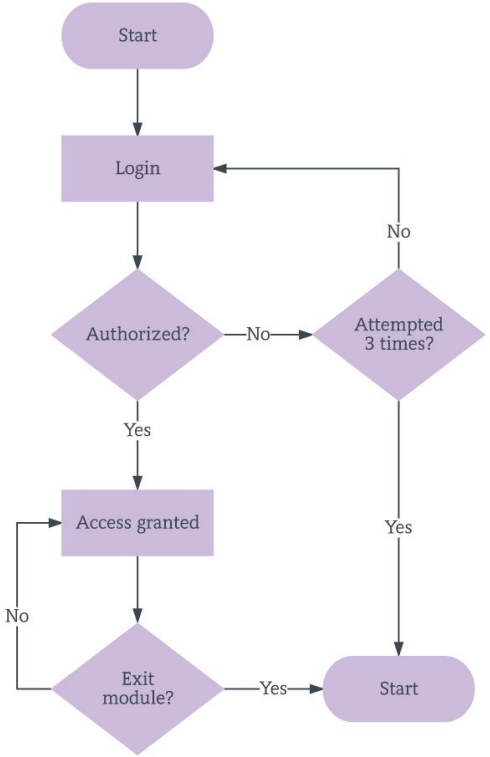
Structure Chart



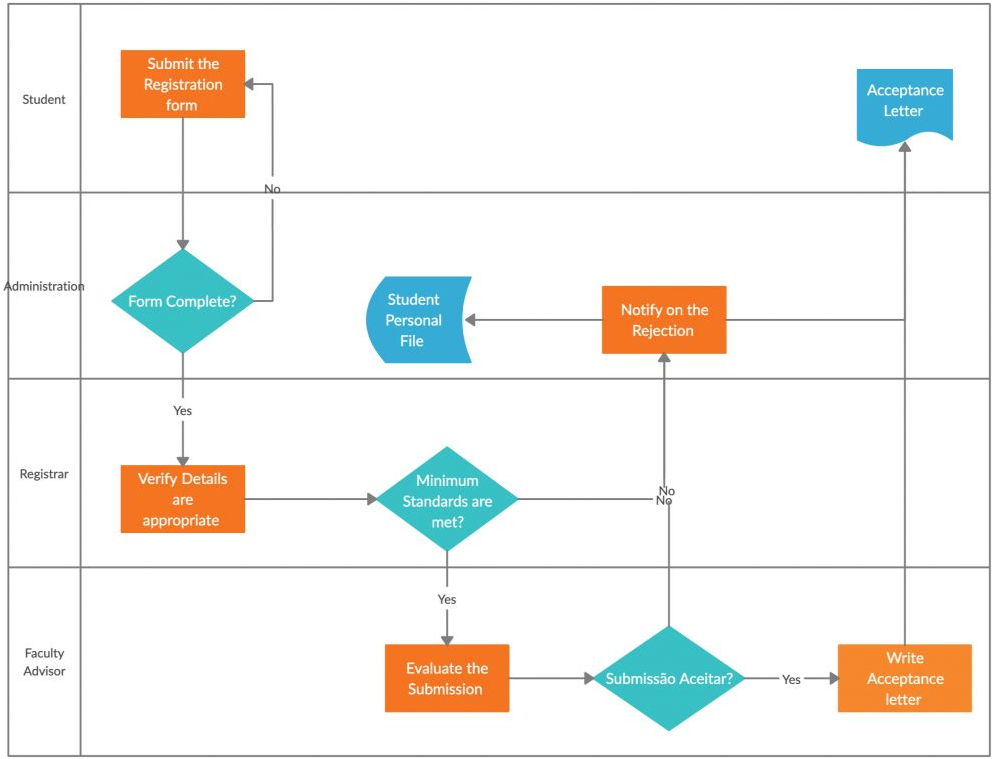
System Flow Diagrams or Flowcharts



System Flow Diagrams or Flowcharts

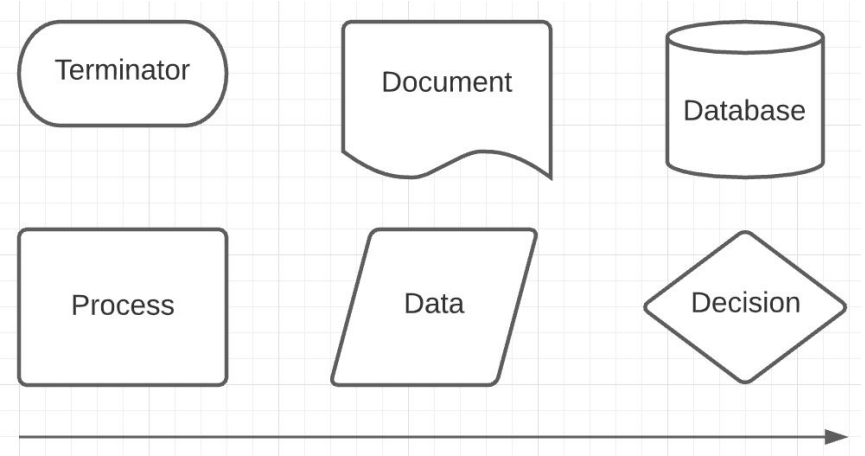


System Flow Diagrams or Flowcharts



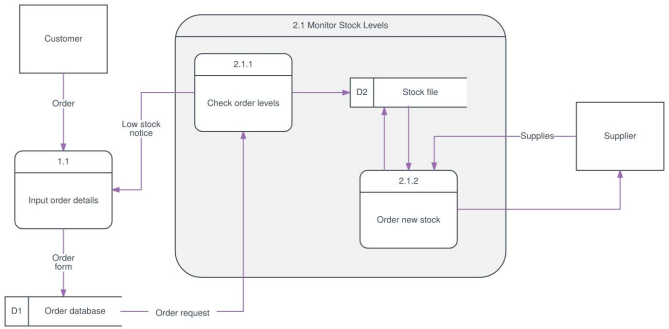
System Flow Diagrams or Flowcharts

- System Flow Diagrams follow the flow of control though a system.
- They can be a very high level overview of the system, or one step removed from actual code, or somewhere in between.

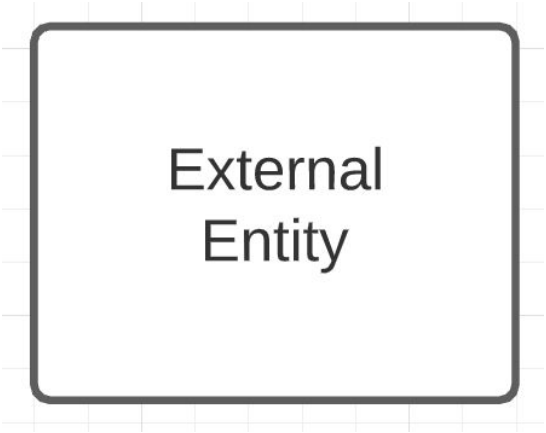


Data Flow Diagram

- Not the same things as flow charts.
- DFDs show the flow of data or information through a system.
- Used to show what processes need access to what data.
- Can be drawn a various levels. Level 0 shows a general overview. Level 1 and beyond give more detail on different processes.



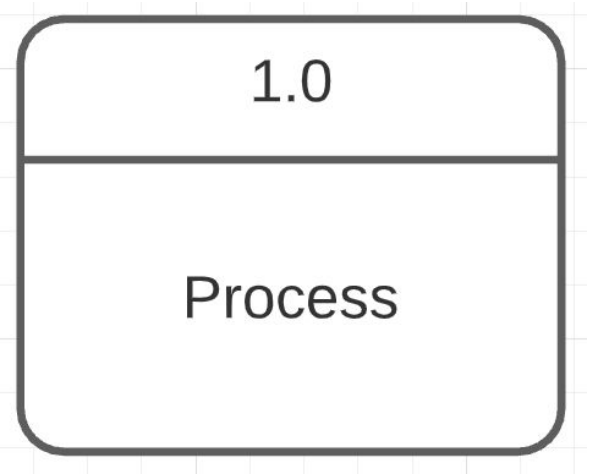
Data Flow Diagram



This is something external to your application that produces or requires information.

It could be the customer or user.

Data Flow Diagram



All data must be processed. This represents something your programme will be doing.

Data can received into a process from an external entity or from a “data store”. Likewise data can be sent on to an external entity or data store

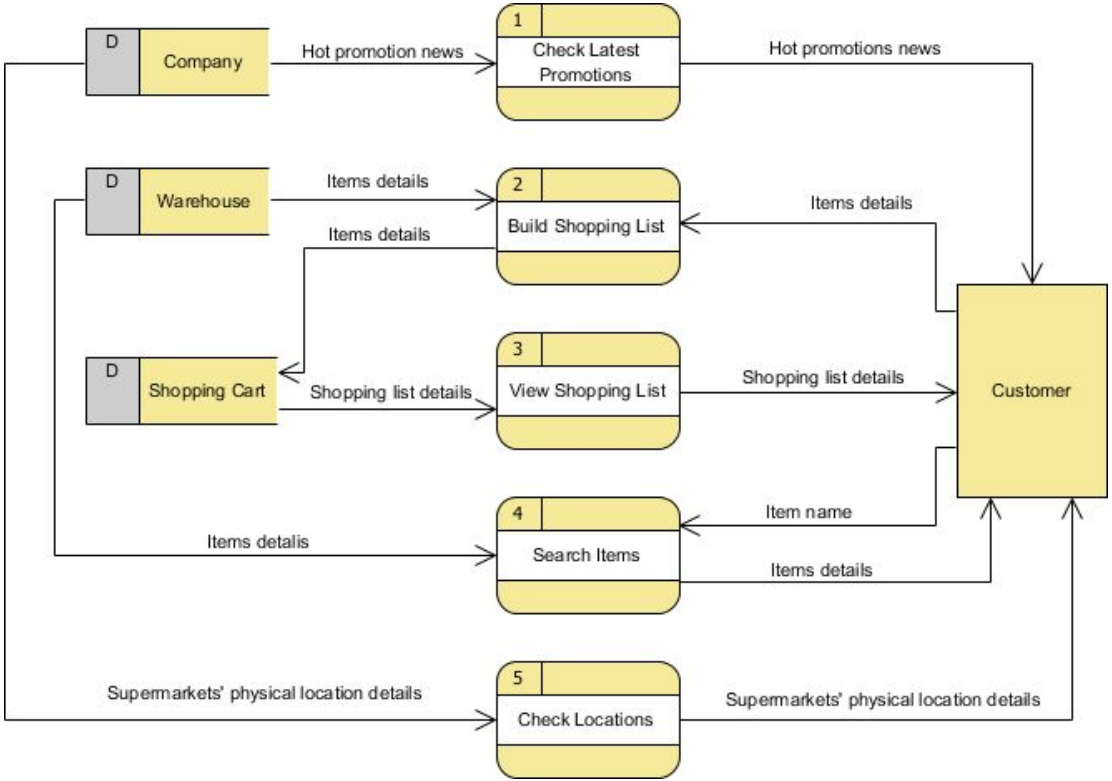
The number at the top is optional and can be used to identify and refer to different processes.

Data Flow Diagram

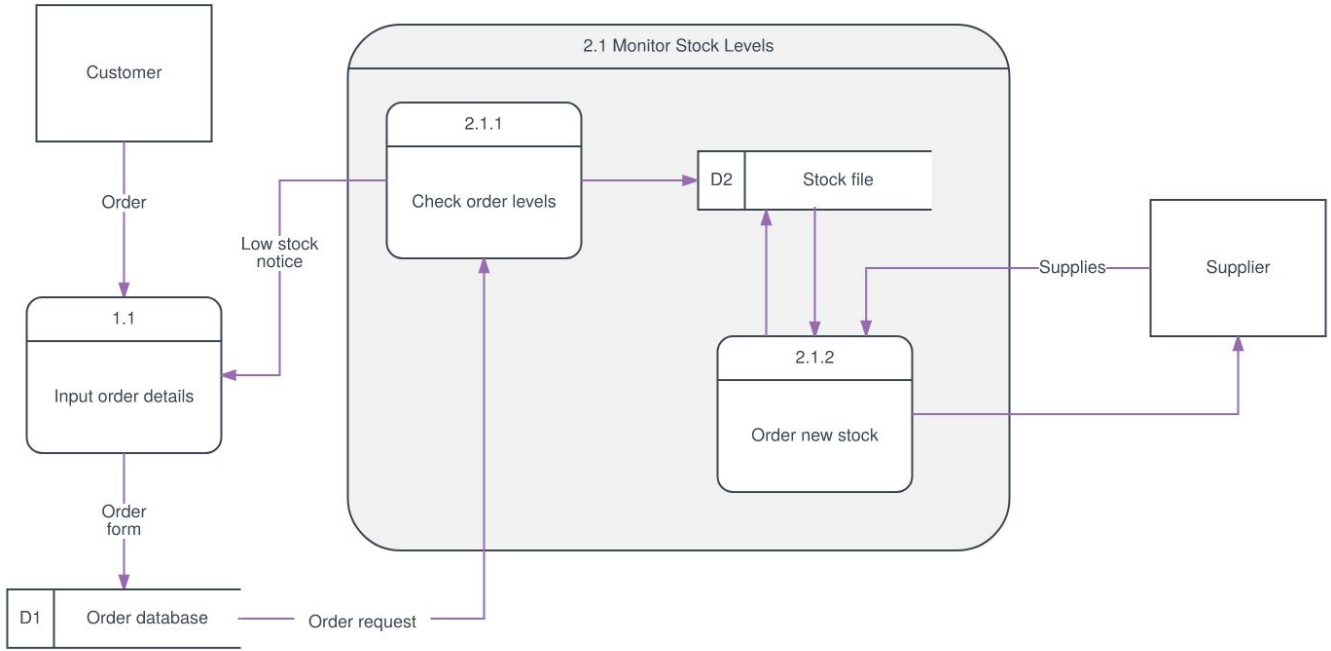
A data store is where persistent data is stored. It usually represents a file or database.

There can be a reference number in the left hand box.

Data Flow Diagram



Data Flow Diagram



Data Flow Diagram