

DFD & Logic Modelling

Decision Tables

DFD Rules

- Process

- No process can have only outputs (a miracle)
- No process can have only inputs (black hole)
- A process has a verb phrase label

- Data Store

- Data cannot be moved directly from one store to another
- Data cannot move directly from an outside source (Entity) to a data store and vice versa
- Data store has a noun phrase label

DFD Rules

- External Entity
 - Data cannot move directly between two entities
 - An entity has a noun phrase label
- Data Flow
 - A data flow has only one direction of flow between symbols
 - A fork means that exactly the same data goes from a common location to two or more processes, data stores or entities

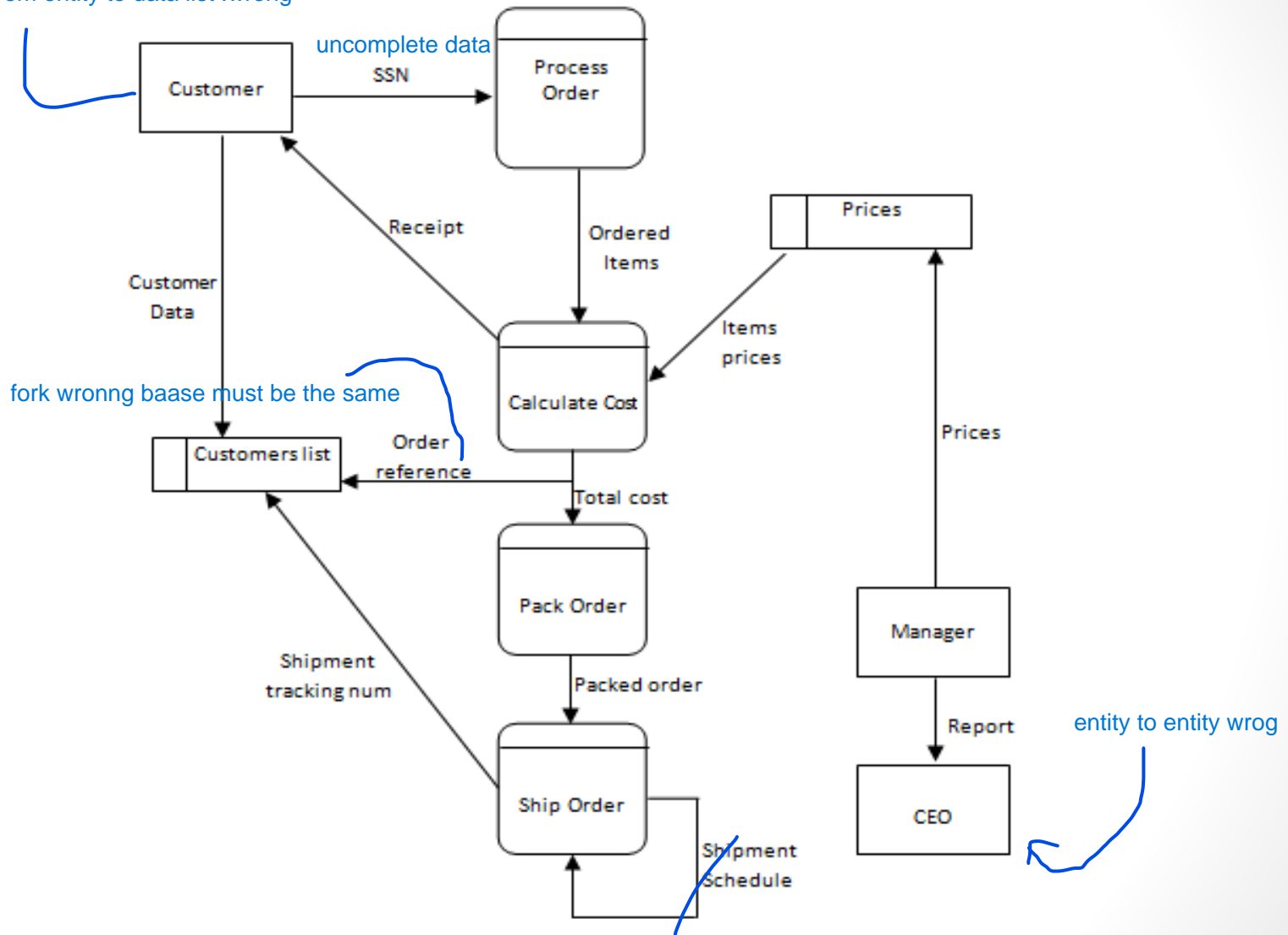
DFD Rules

- Data Flow (Continued)
 - A join means that exactly the same data comes from any two or more different processes, data stores or entities to a common location
 - A data flow cannot go directly back to the same process it leaves
 - A data flow to a data store means update
 - A data flow from a data store means retrieve or use
 - A data flow has a noun phrase label

Question 1

- Identify Potential Violations of rules and guidelines in the following DFD:

here from entity to data list :wrong



Q1 :

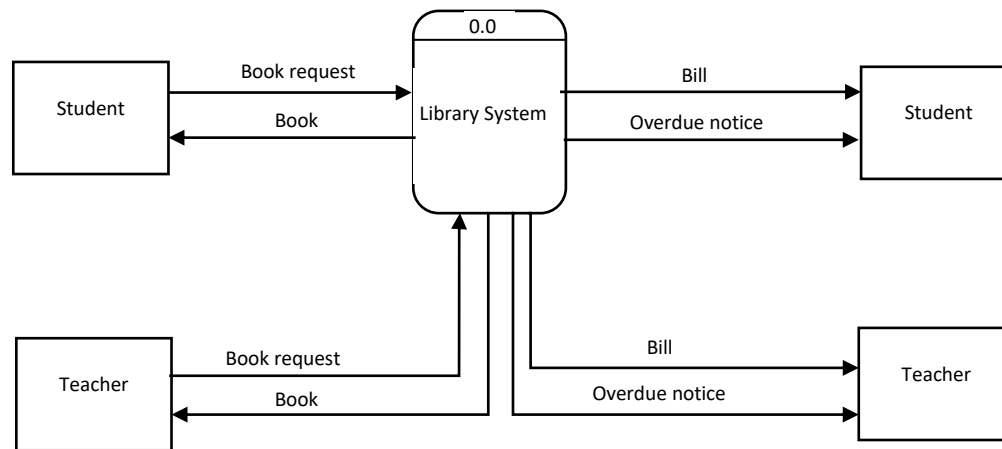
1. Missing Numbers in processes and data stores (Preferred not error)
2. Missing data flows (order) because the input (ssn) is not sufficient to produce the output (ordered items)
3. Missing order data store (Preferred not error)
4. data flow (Customer data) should not move directly from entity (Customer) to data store (Customer list) without first going through a process;
5. data flow (Prices) should not move directly from entity (Manager) to data store (Prices) without first going through a process;
6. data flow (Report) should not move directly from entity (Manger) to entity (CEO) without first going through a process.
7. One dataflow cannot be divided to 2 different data flows -wrong forked dataflow (different data)(Order Reference and total cost)
8. Data flow (shipment schedule) cannot go directly from a process to itself, must go through intervening processes.

Question 2

- Draw the context diagram and Level 0 for a school library system according to the following:

AlRawabi High School has a library that lends books to teachers and students. Students are allowed to borrow six books and teachers are allowed to borrow ten. When someone borrows a book, s/her should fill a book request form and give it to the clerk. As the book is issued the library book file is updated. The borrower file is also updated using with borrow details extracted from the borrow request. Everyone issued with a book has it for a period of one month, after which time they are sent a reminder. If, after six months, they haven't returned the book, they are sent a bill for the cost of recovery of the book.

Context diagram



Level-1

