Assignment 4

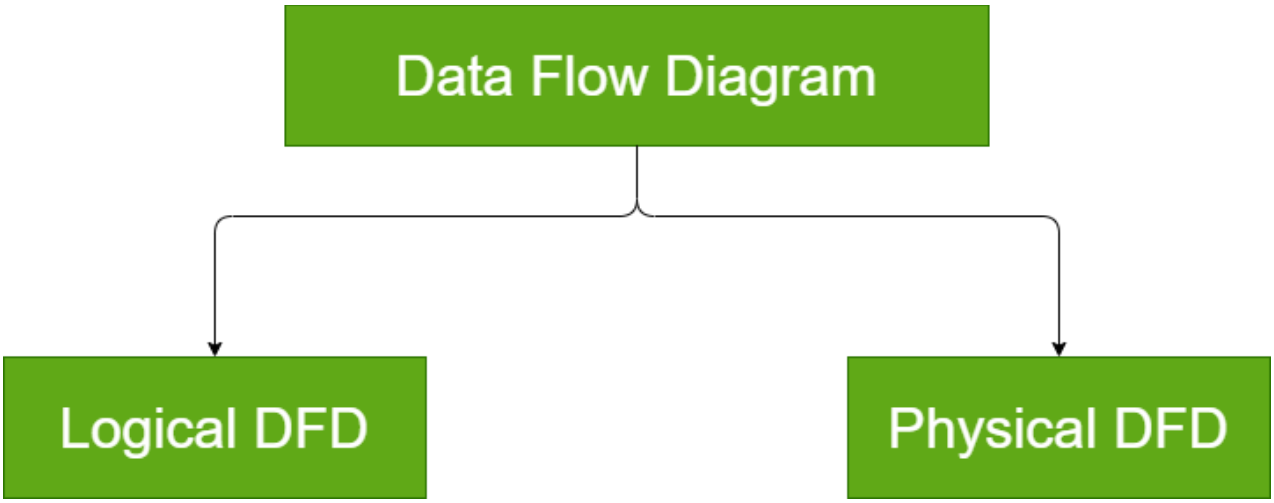
Q1. What is the Data Flow Diagram?

- A **Data Flow Diagram (DFD)** is also known as **Bubble Charts** is a traditional visual representation of the information flows within a system.
- It shows the flow of data between various elements of a system in graphical form.
- It also expresses the requirement of the system and shows how the current system is implements
- It gives an overview of what data a system processes, what transformation are being performed, what data are stored, what results are produced and where they flow.

Q2. Mention the type of boxes used in date flow diagram?

Types of DFD :

DFD is of two types:



1. Logical DFD:
   Logical data flow diagram mainly focuses on the system process. It illustrates how data flows in the system. Logical DFD is used in various organizations for the smooth running of system. Like in a Banking software system, it is used to describe how data is moved from one entity to another.
2. Physical DFD:
   Physical data flow diagram shows how the data flow is actually implemented in the system. Physical DFD is more specific and close to implementation.

Components of Data Flow Diagram:

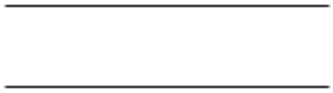
Following are the components of the data flow diagram that are used to represent source, destination, storage and flow of data.

External Entity

Process

Output

Data Flow



Data Store

- **Entities:** Entities include source and destination of the data. Entities are represented by rectangle with their corresponding names.
- **Process:** The tasks performed on the data is known as process. Process is represented by circle. Somewhere round edge rectangles are also used to represent process.

- **Data Storage:** Data storage includes the database of the system. It is represented by rectangle with both smaller sides missing or in other words within two parallel lines.
- **Data Flow:** The movement of data in the system is known as data flow. It is represented with the help of arrow. The tail of the arrow is source and the head of the arrow is destination.

Q3. What are different levels of Data Flow Diagram?

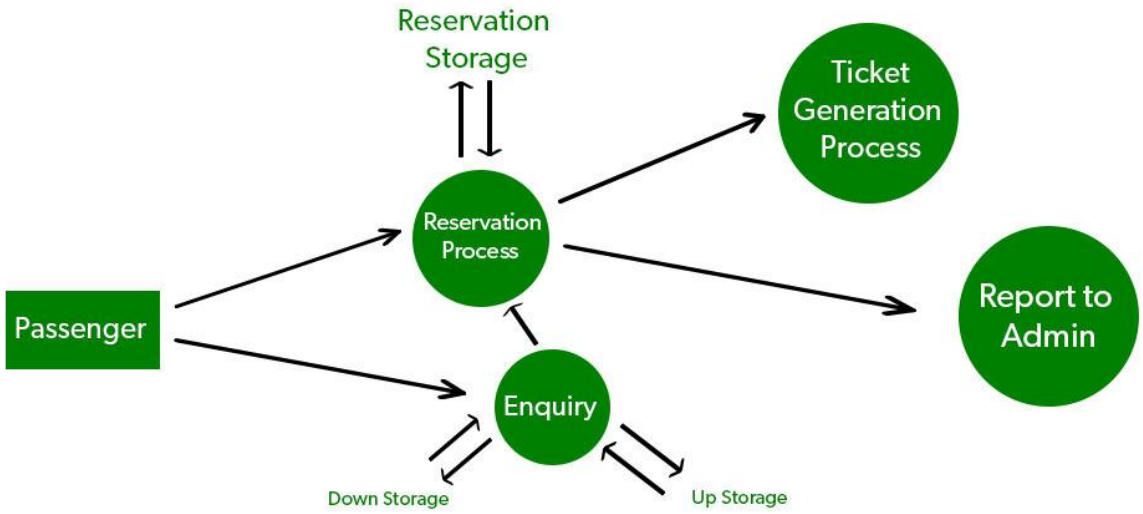
In Software engineering DFD(data flow diagram) can be drawn to represent the system of different levels of abstraction. Higher-level DFDs are partitioned into low levels-hacking more information and functional elements. Levels in DFD are numbered 0, 1, 2 or beyond. Here, we will see mainly 3 levels in the data flow diagram, which are: 0-level DFD, 1-level DFD, and 2-level DFD.

0-level DFD:
It is also known as a context diagram. It's designed to be an abstraction view, showing the system as a single process with its relationship to external entities. It represents the entire system as a single bubble with input and output data indicated by incoming/outgoing arrows.

0-LEVEL DFD

1-level DFD:
In 1-level DFD, the context diagram is decomposed into multiple bubbles/processes. In this

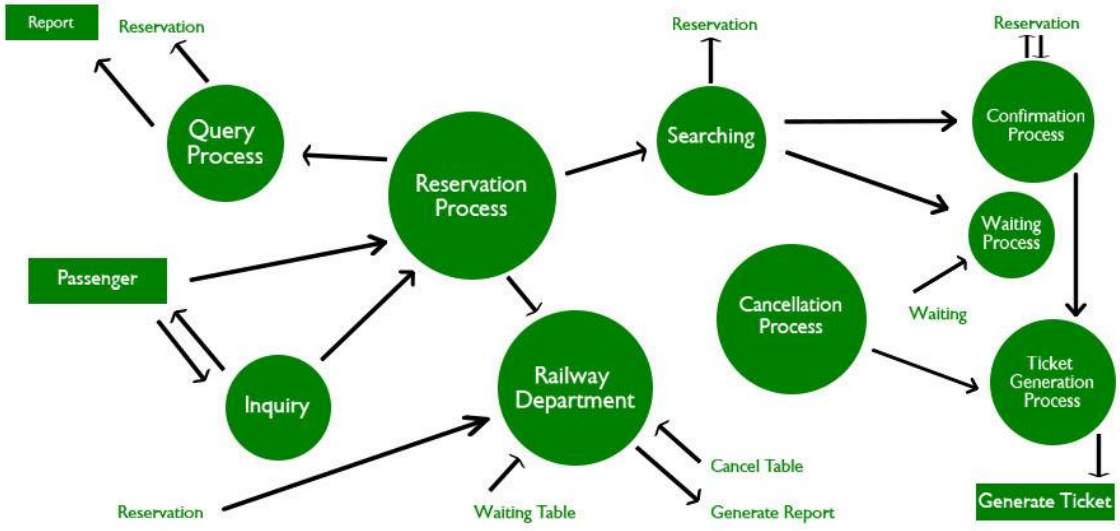
level, we highlight the main functions of the system and breakdown the high-level process of 0-level DFD into subprocesses.



1-LEVEL DFD

2-level DFD:

2-level DFD goes one step deeper into parts of 1-level DFD. It can be used to plan or record the specific/necessary detail about the system's functioning.

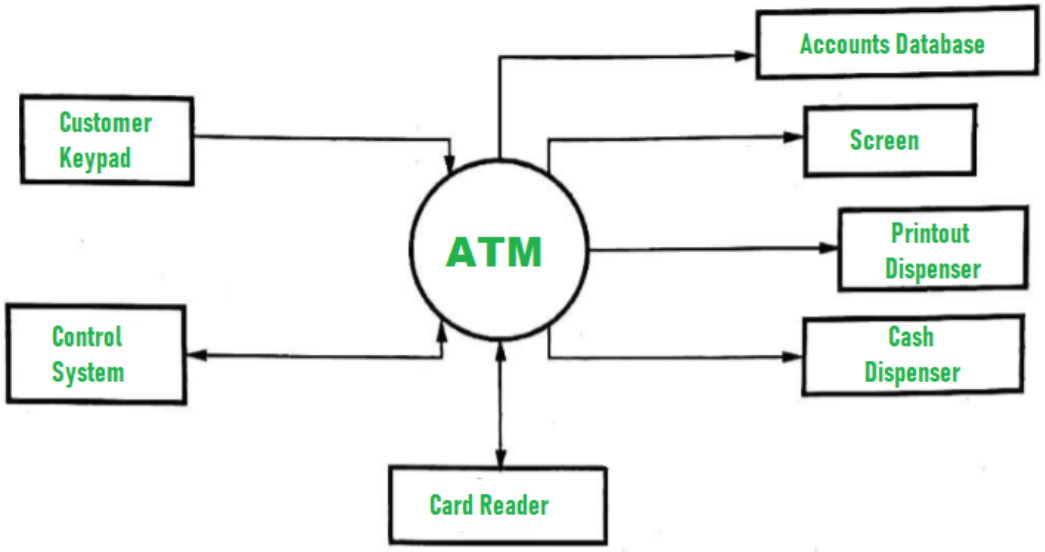


2-LEVEL DFD

Q4. Chooses one management system purpose and Draw DFD up to required level install and use Rational Rose to generate DFD.

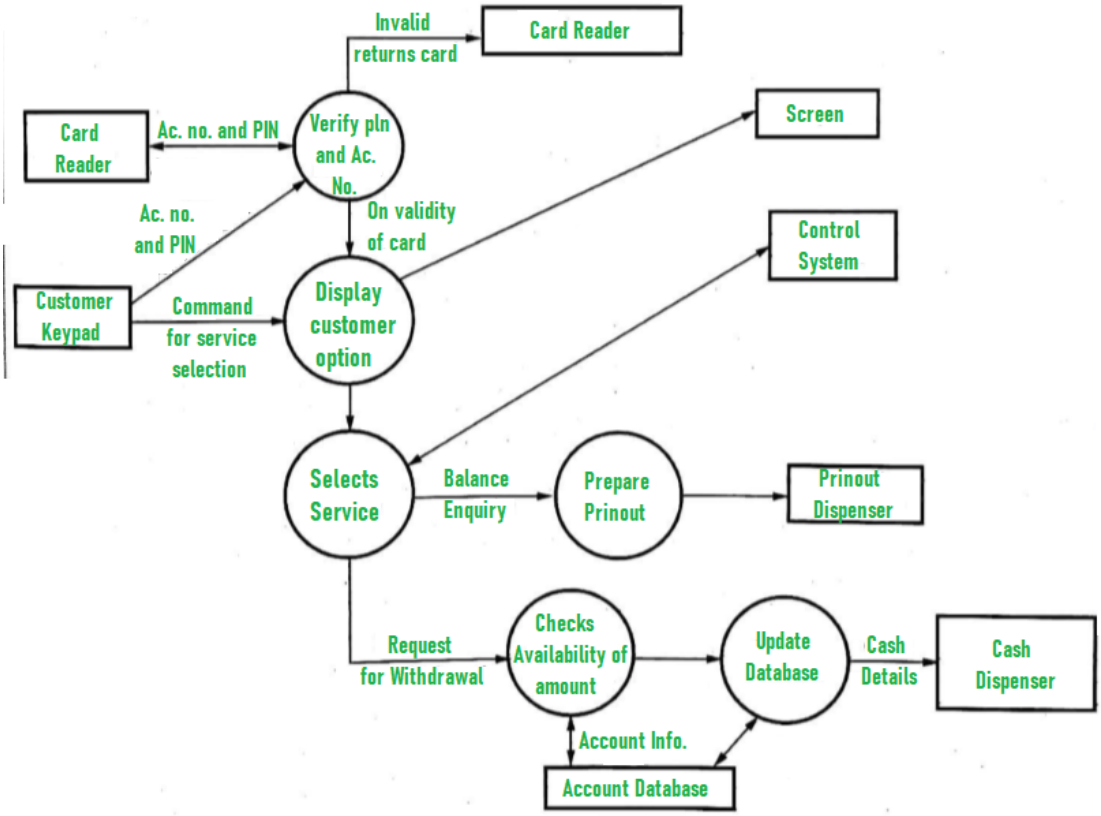
DFD(data flow diagram) of an ATM System consist of two levels of DFD. These levels are Level 0 DFD and Level 1 DFD. Both these levels are used for making the DFD of an ATM system.

1. **Level 0 DFD:** This level is also known as Context Level DFD. At this level, only the interacting inputs and outputs with a system are described. The DFD of this level is shown below:



LEVEL 0 DFD

2. **Level 1 DFD :** At this level, more detailed information is given about the processing of the ATM system. The DFD of this level is shown below:



LEVEL 1 DFD