Data Flow Diagram Symbols and Rules

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Quiz Leader Board

Process

Leaner

External Sources

User Info

Database

Log

Setting
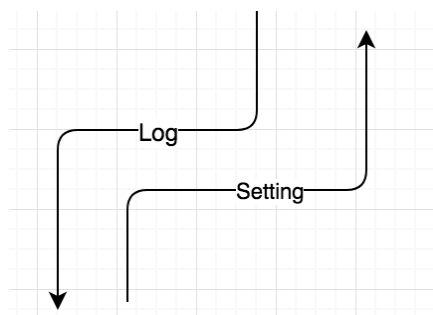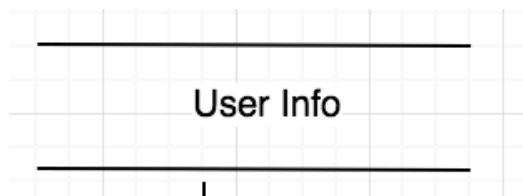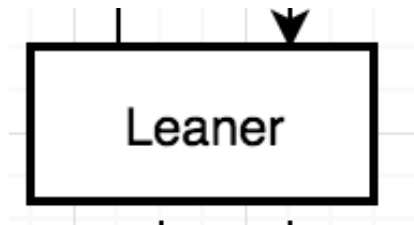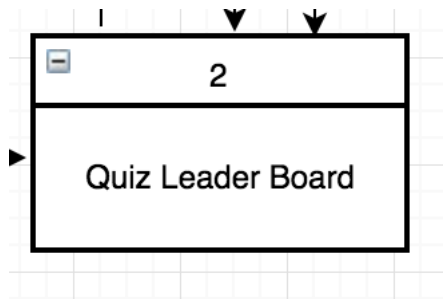
Data Flow

1. All processes should have unique names. If two data flow lines (or databases) have the same label, they should both refer to the exact same data flow (or database).

2. The inputs to a process should differ from the outputs of a process.

3. Any single DFD should not have more than about seven processes.

4. No process can have only outputs. (This would imply that the process is making information from nothing.) If an object has only outputs, then it must be a source.

5. No process can have only inputs. (This is referred to as a "black hole".) If an object has only inputs, then it must be a external source.

6. A process has a verb phrase label.

7. Data cannot move directly from one database to another database. Data must be moved by a process.

8. Data cannot move directly from an outside source to a database. Data must be moved by a process that receives data from the source and places the data in the database.

9. Data cannot move directly to an outside external source from a database. Data must be moved by a process.

10. A database has a noun phrase label.

11. Data cannot move directly from a source to a external source. It must be moved by a process if the data are of any concern to the system. If data flows directly from a source to a external source (and does not involved processing) then it is outside the scope of the system and is not shown on the system data flow diagram DFD.

12. A source has a noun phrase label.

13. A data flow has only one direction between symbols. It may flow in both directions between a process and a database to show a read before an

update. To effectively show a read before an update, draw two separate arrows because the two steps (reading and updating) occur at separate times.

14. A fork in a data flow means that exactly the same data goes from a common location to two or more different processes, databases, or sources/external sources. (This usually indicates different copies of the same data going to different locations.)

15. A join in a data flow means that exactly the same data comes from any of two or more different processes, databases, or sources/external sources, to a common location.

16. A data flow cannot go directly back to the same process it leaves. There must be at least one other process that handles the data flow, produces some other data flow, and returns the original data flow to the originating process.

17. A data flow to a database means update (i.e., delete, add, or change).

18. A data flow from a database means retrieve or use.

19. A data flow has a noun phrase label. More than one data flow noun phrase can appear on a single arrow as long as all of the flows on the same arrow move together as one package.