

My First DFD

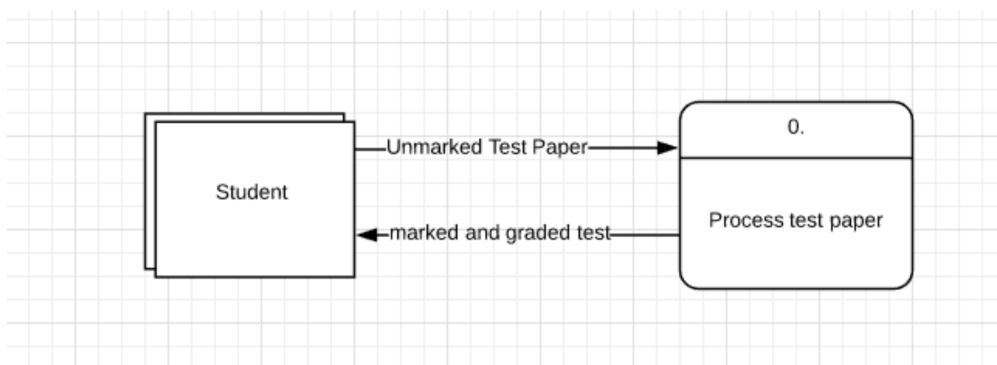
Monday, 5 August 2019 10:39 AM

Problem Statement:

A teacher gives his Digisol a mock exam on SQL. The result is out of a possible 25, which is converted to a percentage and then mapped to an A-E grade. This grade is recorded in the teachers spreadsheet markbook and the marked paper is returned to the student.

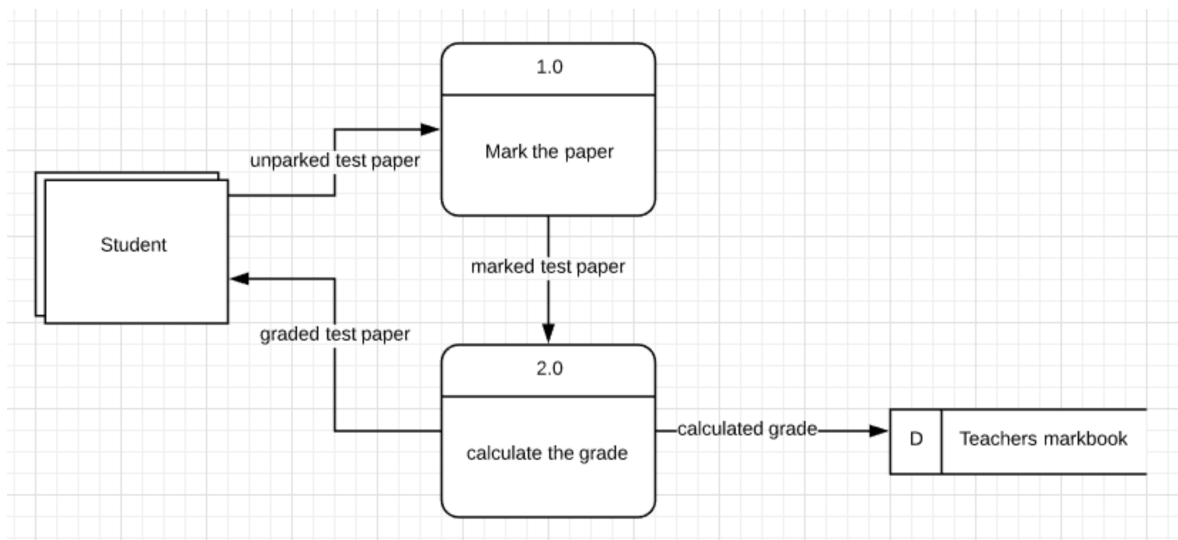
Context Level Diagram

Context level diagrams only have a SINGLE process (the container for all other processes) along with the external entities involved. This is designed to assist in the further analysis.



Nek Level (Level 0)

Now we break apart the level 0 process into the 2 sequence-dependent sub-processes:



Notes:

- the student is the initiator of the process, giving the initial data and receiving back processed data later
- process 1 must be done before process 2
- there is a data store involved, "D" means permanent record (markbooks do not get trashed each time they are used, naturally)

- the processes can easily be verbalised
- this process is now sufficiently developed that we could stop here - no "mystery meat" remains (although, we could specify how the calculate the grade process works with a 2.1: convert to a percentage and a 2.2: map the percentage to a letter grade if we were being completist.

We continue breaking down processes until you can easily determine the effects of change upon that part of the system. DFDs are used to Identify, Document and Communicate requirements of a system before you build it, usually.

Now The RULES

- A data flow line must have a source
- A data flow line must have a destination
- Data flow lines must not cross. It may be necessary to draw some entities or data stores more than once.
- The name of the context level process identifies the main purpose of the information system.
- A data store must have at least one incoming data flow.
- Data cannot flow directly from an entity to another entity or a data store without a process in between.
- Data cannot flow directly from a data store to another data store or entity without a process in between.
- A process cannot have outputs that are greater than the sum of its inputs. That is, its inputs must be able to produce the outputs shown.
- A process must have an output