More DFD's

Exploding a DFD

Level-0, Level-1, Level-2,.....

Exploding a Data Flow Diagram 1

Level–0 DFD

A level-0 DFD shows:

- The top-most level DFD
- *Context diagram* or *'Black Box' diagram*
- Only **one** process (representing the system as a whole)
- Interaction with all (if any) external entities
- No data stores

Exploding a Data Flow Diagram 2

Level–1 DFD

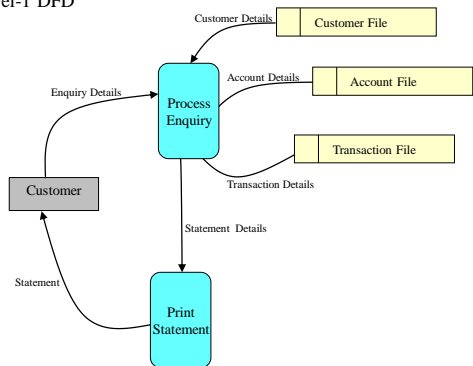The level-0 DFD may be exploded into a level-1 DFD.

The Level-1 DFD shows:

- The sub-processes of the system
- Interaction with External Entities
- Data stores

Exploding a Data Flow Diagram 3

Level-1 DFD

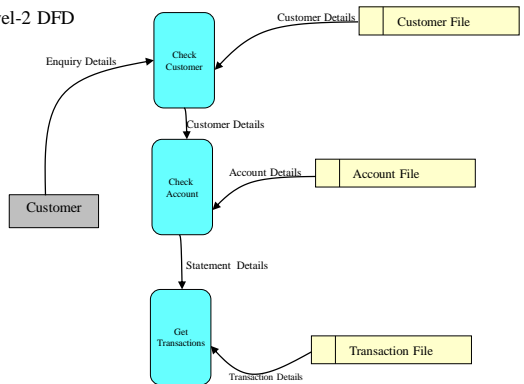Exploding a Data Flow Diagram 4

Exploding DFD's to Level 2

It **may** be possible to '**explode**' a process in a level-1 DFD.

Decomposing a level-1 DFD generates a level-2 DFD for **each** level-1 process that is decomposed.

Exploding a Data Flow Diagram 5

Level-2 DFD

Exploding a Data Flow Diagram 6

A system model can therefore consist of many DFD's.

For consistency, we need some way of relating lower level DFD's to it's higher level process.

To do this we use numbering conventions.

All processes at Level-1 are assigned a process identification number of the form P1, P2, P3, ……, Pn

All processes at Level-2 are assigned a process identification number of the form P1.1, P1.2, P2.1, P2.2, P2.3,…., Pm.n

where m is the *parent* process (level-1)
and n is the *child* process (level-2)

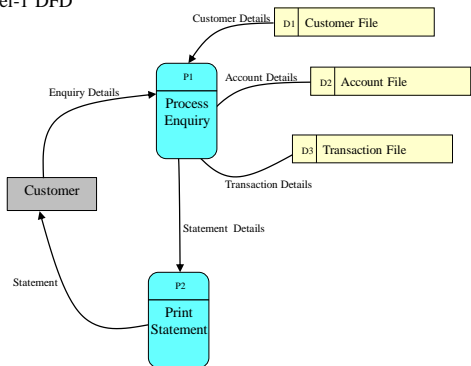Data stores are assigned an identification number of the form *Dn*

e.g. D1, D2, D3, …… , Dn

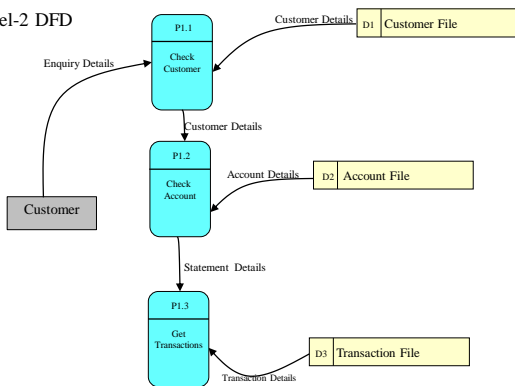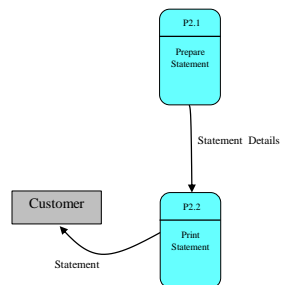Use these numbering conventions at all times!

Level-1 DFD

Level-2 DFD

Level-2 DFD