**1. DFD Elements and Symbols:**

* **External Entity** → Double square ➔ Named with **noun** only.
* **Process** → Rounded rectangle ➔ Named using **verb + adjective + noun** (example: *Validate Customer Account*).
* **Data Store** → Open-ended rectangle ➔ Named with **noun** only.
* **Data Flow** → Arrow ➔ Named with **noun** only (ex: *Customer Order*, *Book Details*).

**2. Context Diagram (Level 0 Rules):**

* Must contain **only one process** representing the whole system → Numbered as **0**.
* Only shows **External Entities** and **Major Data Flows**.
* **NO data stores** inside the context diagram.
* Each External Entity must be linked to the system by at least one data flow.

**3. Level 0 Diagram (Diagram 0 Rules):**

* Must show **up to 9 processes** (keep general, no over-complication).
* External Entities from Context Diagram must still be shown.
* **Data Stores** are introduced here (not before).
* Processes are numbered simply: **1**, **2**, **3**, etc.

**4. Child Diagrams (Level 1+ Rules):**

* A process from Diagram 0 can be "exploded" into **Child Diagram**.
* Child diagram must have the **same input/output** flows as the parent process (called **vertical balancing**).
* Child diagrams have numbering like **1.1**, **1.2**, etc.

**5. Critical Mistakes to Avoid (very important!):**

* ❌ No direct link between two entities.
* ❌ No direct link between two data stores.
* ❌ No direct link between entity and data store.
* ❌ A process must have both **input and output**.
* ❌ Don’t exceed 9 processes per level.

**6. Labeling Rules:**

* **Processes** ➔ *Verb + Adjective + Noun*.
* **Entities, Data Stores, Data Flows** ➔ *Noun* only.
* Clear, specific names (no vague labels like "Data" or "Information").

**7. Top-Down Development Order:**

| **Step** | **Description** |
| --- | --- |
| 1 | List business activities (External Entities, Data Flows, Processes, Data Stores). |
| 2 | Draw Context Diagram (System = one Process 0). |
| 3 | Draw Level 0 DFD (Diagram 0). |
| 4 | Explode processes if needed into Child Diagrams (1.1, 1.2, etc.). |
| 5 | Double-check balancing and errors. |
| 6 | (Optional) Build Physical DFD (later step, not logical yet). |