**1. Full Backup**

* **When it is used**: Performed as the foundation for other backups; used weekly or as a base for restore chains.
* **What it includes**: Entire database — schema, data, and transaction log (to maintain consistency).
* **Pros**:
  + Complete snapshot
  + Simplifies restores
* **Cons**:
  + Time-consuming
  + Large file size
* **Real-world scenario**: Used every Sunday in a **hospital system** to provide a solid backup foundation.

**🔹 2. Differential Backup**

* **When it is used**: Periodically between full backups to capture changes.
* **What it includes**: Changes made since the last full backup.
* **Pros**:
  + Smaller and faster than full backups
  + Reduces recovery time compared to relying only on log backups
* **Cons**:
  + Cannot restore alone; needs the last full backup
  + Grows over time until next full backup
* **Real-world scenario**: Used daily in an **e-learning platform** to back up changes made after the full backup.

**🔹 3. Transaction Log Backup**

* **When it is used**: For point-in-time recovery; required when using Full or Bulk-Logged recovery models.
* **What it includes**: Only transaction log entries since the last log backup.
* **Pros**:
  + Enables point-in-time restore
  + Very small and frequent backups
* **Cons**:
  + Needs a full chain of logs for restore
  + Must be regularly maintained to prevent large logs
* **Real-world scenario**: Used every hour in a **banking system** to protect against data loss in critical systems.

**🔹 4. Copy-Only Backup**

* **When it is used**: For ad-hoc or testing backups without disrupting backup chain.
* **What it includes**: Same data as full or log backup, but excluded from differential base.
* **Pros**:
  + Doesn’t affect backup sequence
  + Great for quick testing or migration
* **Cons**:
  + Not usable in standard restore sequence
* **Real-world scenario**: Used before performing risky upgrades in a **ticketing system**.

**🔹 5. File/Filegroup Backup**

* **When it is used**: For very large databases to back up specific parts.
* **What it includes**: One or more filegroups.
* **Pros**:
  + Reduces time and storage needs for large DBs
* **Cons**:
  + Complex restore process
* **Real-world scenario**: Used in **data warehouses** where only one partition (e.g., monthly data) changes frequently.