🔄 OLTP (Online Transaction Processing)

- **Purpose**: Handles day-to-day transactions.
- **Operations**: Insert, Update, Delete, Simple Queries.
- **Data Type**: Current and real-time data.
- **Database Design**: Highly normalized to avoid redundancy.
- **Query Complexity**: Simple and fast queries.
- **Users**: Clerks, database administrators, and end users.
- **Examples**: Banking systems, ATM transactions, online shopping, flight booking.

📊 OLAP (Online Analytical Processing)

- **Purpose**: Performs complex analysis and decision-making queries.
- **Operations**: Complex queries, aggregations, data mining.
- **Data Type**: Historical and aggregated data.
- **Database Design**: Denormalized (e.g., star or snowflake schema).
- **Query Complexity**: Complex and time-consuming.
- **Users**: Data analysts, executives, business decision-makers.
- **Examples**: Sales forecasting, business reports, trend analysis.

🔍 Key Differences

Feature	OLTP	OLAP
Main Use	Transaction processing	Analytical processing

Data Type	Real-time, operational data	Historical, analytical data
Design	Normalized	Denormalized
Query Type	Simple queries	Complex queries with joins & aggregations
Performance Focus	Fast write and read performance	High read performance
Users	Front-end users, admins	Analysts, managers
