

Below are 10 business scenarios. Your task is to select the most suitable database type for each scenario from the given options and provide a short justification for your choice.

Database Options:

Relational Database

NoSQL: Document Store

NoSQL: Key-Value Store

NoSQL: Column Store

NoSQL: Graph Database

Scenarios :

1. Student Enrollment System

A university needs to track student enrollments, courses, and grades while ensuring data integrity and relationships between students and courses.

2. Library Book Catalog

A library needs a system to store book details, authors, and availability, allowing structured queries for book searches.

3. E-commerce Website Product Catalog

An online store needs to store and manage products with varying attributes (e.g., different clothing sizes, colours, descriptions, and user reviews).

4. Real-Time Price Tracking System for Crypto Exchange

A cryptocurrency exchange needs to store and retrieve constantly fluctuating price data while ensuring high-speed access.

5. Friendship & Follower System in a Social Media App

A social media platform must manage friendships, followers, and mutual connections efficiently.

6. Customer Session Management for an Online Store

An e-commerce platform needs to store user session data, including cart contents, temporary preferences, and browsing history.

7. Fraud Detection in Online Banking Transactions

A banking system needs to detect suspicious transactions by analyzing connections between accounts and transaction histories.

8. Recommendation Engine for a Movie Streaming Service

A streaming service like Netflix wants to recommend movies based on user preferences, viewing history, and similar user behaviour.

9. Log Analysis for Cybersecurity Monitoring

A company needs to analyze millions of system logs daily to detect unusual patterns or security threats in real time.

10. Supply Chain Management for a Global Retailer

A multinational retailer needs to track product shipments, supplier relationships, and warehouse inventories across different locations.