1 Banking Application

Database Type : SQL

SQL is suitable because:

1. Accuracy is important
   When transfer money ,the amount must be exact
   Example : Money Transfer

Before Transfer

Account_Table

Account_No	Name	Balance
101	Asha	5000
102	Ravi	3000

Action

Transfer **₹1000** from **Asha** → **Ravi**

After Transfer (Exact Amount)

Account_No	Name	Balance
101	Asha	4000
102	Ravi	4000

2. Data Consistency : Either both actions happen OR none happen

Start Transfer
|
v
₹1000 Deduct from Asha?
|
v

₹1000 Add to Ravi?
|
v
Transaction SUCCESS

₹1000 Deduct from Asha
|
|
₹1000 Add to Ravi
|
|
→ Rollback (money stays same)

3. Structured data handling
   Data fits into tables

Customer_ID	Name
1	Asha
1	Ravi

Account_No	Name	Balance
101	Asha	4000
102	Ravi	4000

Txn_ID	From_Acc	To_Acc	Amount
T101	101	102	1000

4. Security

   Users in Banking System

User	Role
Customer	Read Only
Clerk	Insert / Update
Manager	Full Access

2 Social Media Application

Database Type : NoSQL

SQL is **not suitable** here because data is **unstructured** and **changes frequently**.

NoSQL is suitable

1. Flexible Data (Schema-less)
2. Each user can have different data

Userid	name	posts	likes
101	asha	15	120

Userid	name	posts	stories	followers
102	Usha	10	5	300

High Speed & Large Data Handling
No fixed table joins → **Faster access**

Scalability
Users increase
↓
More data added easily
↓
NoSQL handles it smoothly

3 OTP System

Database Type :In memory

In- memory suitable

- Very Fast Access
- Used for **temporary data**

OTP Table (Stored in Memory)

Mobileno	OTP	Expiray Time
2345678123	456325	2min

OTP is verified instantly
Not stored permanently

Session Management

sessionid	userid	Login time
S1	U1	:10:30

After logout or timeout → Session deleted automatically