Entity-Relationship Diagram

LeaveType (entity)
- max_days
- leave_type_id (key)
- leave_name

Employee (entity)
- emp_id (key)
- name
- department
- email
- manager_id (derived)
- designation
- phone

Manager (entity)
- approval_level
- manager_id (key)

LeaveApplication (entity)
- status
- end_date
- start_date
- Attribute (key)
- emp_id (derived)
- leave_type_id (derived)

Approval (entity)
- remarks
- approval_id (key)
- leave_id (derived)
- manager_id (derived)
- approval_date

Relationships:
- is of type
- applies for
- approves
- reports to
- approve
- has approvals

NORMALISED TABLES/NORMALISATION:

- **First Normal Form (1NF):**
  All attribute values are atomic, no repeating groups exist.

- **Second Normal Form (2NF):**
  Removed any partial dependencies; all attributes depend fully on primary keys.

- **Third Normal Form (3NF):**
  Removed transitive dependencies; Approval details separated into a distinct table.

Tables after Normalization

1. **Employee**(emp_id **PK**, name, department, designation, email, phone, manager_id **FK**)

2. **Manager**(manager_id **PK, FK→Employee**, approval_level)

3. **LeaveType**(leave_type_id **PK**, leave_name, max_days)

4. **LeaveApplication**(leave_id **PK**, emp_id **FK**, leave_type_id **FK**, start_date, end_date, status)

5. **Approval**(approval_id **PK**, leave_id **FK**, manager_id **FK**, approval_date, remark