Mentor - Session 3

1- Review Tasks

Cancel Request

Withdraw Request

Edit Pending Request

Notes TO Discussion :
* Managers can approve by role-based or job title
* For editing pending requests should I change the request status or not

- Director of Engineering
  - Engineering Manager
    - Employee

Add HR to approval cycle

With minimum code change

Create database view Here

request_status   as mentioned

```
-- Create a view to display workflow_status
CREATE VIEW workflow_status_view AS
SELECT
    S.status_id,
    S.status_name,
    WS.step_id,
    WS.step_name,
    WS.next_step
FROM Status AS S
JOIN StatusStepMapping AS M ON S.status_id = M.status_id
JOIN WorkflowSteps AS WS ON M.step_id = WS.step_id;
```

workflow steps
- step_id
- step_name
- step_description
- next_step_id

status_step_mapping

- mapping_id
- status_id
- step_id

vacation_step_id	vacation_step_name	vacation_status_id	vacation_status_name	next_step_id	next_step_name
1	Request Submitted	1	Pending	2	Manager Approval
2	Manager Approval	2	Manager Approved	4	HR Review
2	Manager Approval	3	Manager Rejected	NULL	NULL
4	HR Review	4	HR Approved	NULL	NULL
4	HR Review	5	HR Rejected	NULL	NULL	can be return t manager based on Requir

Database [Practical Web Database Design – Book]

Ch2 [Core Database Concepts]

* Data model
  – Tables
  – Columns
  – Rows
  – PK
  – FK
* Normalization
* Data integrity
* Data access method
  – Sequential
  – indexed
  – Direct

Ch3 [Creating and Using Relational Databases with SQL]

* SQL
  – Syntax
* DDL
* DML
* Reading Data from DB
* Techniques for building SQL

Ch4 [Fundamentals of Database Design]

* Data Modeling
  – Entities
  – Attributes
* Relationships
  – One to One
  – One to Many
  – Many to Many
* E-commerce DB diagram
* De-normalizing for
  performance
* CASE tools

Ch5 [Planning the Database]

* Gathering Requirements
* Identify Entities
* Identify Attributes
* Identify Relationships

Notes

– Try examples in PostgreSQL database or MySQL database
– Recommended practice examples in the book

Tasks

Category

category_id
category_name

Product

product_id
category_id
name
description
price
stock_quantity

Customer

customer_id
first_name
last_name
email
password

Order

order_id
customer_id
order_date
total_amount

Order_details

order_detail_id
order_id
product_id
quantity
unit_price

Given the following sample entities do the following tasks
* Create the DB schema script with the following entities
* Identify the relationships between entities
* Draw the ERD diagram of this sample schema

* Write an SQL query to generate a daily report of the total revenue for a specific date.
* Write an SQL query to generate a monthly report of the top-selling products in a given month.
* Write a SQL query to retrieve a list of customers who have placed orders totaling more than $500 in the past month.
  Include customer names and their total order amounts. [Complex query].

* How we can apply a denormalization mechanism on customer and order entities.

Activity Diagram