Activity 5 – Practice Set

Develop a gallery application that uses geolocation to highlight where the images were taken. It should have SQLite (research based).

- Gallery Application with Geolocation and SQLite Requirements:
    - Objective:
        - The objective of this project is to develop a gallery application that allows users to view images and see their locations on a map using geolocation. Additionally, the application should use SQLite for local data storage.
    - Image Gallery:
        - Display a grid or list of images stored in the application.
        - Provide options to view images in full-screen mode or in a carousel/gallery view.
    - Geolocation Integration:
        - Utilize the device's geolocation capabilities to tag each image with its location (latitude and longitude).
        - Display a map in the application that shows the locations of all images on the gallery.
    - SQLite Database:
        - Use SQLite to store image metadata, including file paths, timestamps, and geolocation data.
        - Implement CRUD operations (Create, Read, Update, Delete) for managing image data in the SQLite database.
    - User Interface:
        - Design a user-friendly interface for browsing images and interacting with the map.
        - Include features like pinch-to-zoom for images and map, as well as swipe gestures for navigation.
    - Map Integration:
        - Integrate a map component (e.g., Google Maps, Mapbox) to display image locations.
        - Use markers or other visual indicators on the map to show where each image was taken.
    - Search and Filter:
        - Provide search functionality to allow users to search for images based on location, date, or other metadata.
        - Implement filtering options to view images based on specific criteria (e.g., location, date range).
    - Security and Permissions:

        - Ensure that the application requests and handles necessary permissions for accessing geolocation data and storing images.
        - Implement security measures to protect user data stored in the SQLite database.
    - Testing:
        - Test the application thoroughly to ensure that geolocation tagging and SQLite functionality work as expected.
        - Conduct performance testing to ensure the application performs well, especially when handling a large number of images.
    - Documentation:
        - Provide comprehensive documentation for the application, including a user guide and developer documentation for future maintenance and updates.
    - Presentation:
        - Prepare a presentation to demonstrate the features and functionality of the gallery application, highlighting the use of geolocation and SQLite.