**Part 1**

* 1. SQL (Structured Query Language) facilitates the efficient storage and retrieval of product details, user accounts, and order information. For instance, product data such as name, description, and price are stored in one table, user details like username and email are kept in another, and order information, including purchased products and shipping details, is recorded in yet another table.
  2. SQL (Structured Query Language) is vital for web applications as it facilitates the storage, retrieval, and manipulation of data in databases. It enables web applications to interact with databases for tasks such as retrieving user information, storing session data, and managing content.
  3. Data integrity, scalability and security are the benefits of using SQL for web applications.
  4. (a) Data Integrity: SQL maintains data integrity by enforcing constraints and rules, which prevents the insertion of invalid or inconsistent data into the database.

(b) Scalability: SQL databases are designed to handle substantial amounts of data and can scale to support the growth of web applications.

(c) Security: SQL offers strong security features, including user authentication, access control, and encryption, to protect the web application’s data from unauthorized access and manipulation.

* 1. Entity-relationship, relational, and object-oriented DBMS .

**Part 2**

* 1. A database table is a collection of data organized in rows and columns. Like spreadsheets, databases store data in a tabular format, with numeric and textual values arranged across columns and rows.
  2. Column refers to a vertical arrangement of data within a table. For example, in a table storing student information, a "Name" column would contain text data.

Data types are important in a database because they define the kind of data that can be stored in a column, ensuring data integrity, accuracy, and efficient storage and retrieval.

Common Data Types

1. Text: This data type is used to store alphanumeric characters, such as names, addresses, and descriptions.
2. Number: This data type is used to store numerical values, including integers and decimals, for calculations and quantitative analysis.
3. Date: This data type is used to store date and time values, allowing for chronological organization and date-based operations.
   1. A data type defines the kind of value an object can hold and the operations that can be performed on it. Examples include:
4. integers for whole numbers,
5. Booleans for true or false values, and
6. strings for sequences of characters.

**Part 3**

* 1. Data points for Expense Tracker Application are:

1. expense amount,
2. date,
3. category,
4. payment method and description.

Table Name: Expenses

| **Column Name** | **Data Type** | **Description** |
| --- | --- | --- |
| expense\_id | INT | A unique identifier for each expense (Primary Key) |
| amount | DECIMAL | The amount of the expense |
| date | DATE | The date the expense was incurred |
| category | TEXT | The category of the expense |
| payment\_method | TEXT | The payment method used for the expense |
| description | TEXT | A brief description of the expense |