**Instagram Data Model & Analytics Project**

In this project, we will design a data model for Instagram using Oracle SQL. We will create different tables and build the data model, generate SQL create table statements, insert data, show examples of updating data, and add analytic examples using where condition, orderby, group by, having clause, and explain different aggregation functions. We will also cover subquery, window function, CTE, case statement, date casting, and working with dates.

## Designing Data Model

**Users**

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Constraints** |
| users\_id | Number(5) | Primary key |
| name | varchar(20) | NOT NULL |
| email | varchar(50) | UNIQUE NOT NULL |
| phone\_number | Number(10) | UNIQUE |

Posts

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Constraints** |
| post\_id | Number(5) | PRIMARY KEY |
| users\_id | Number(5) | FOREIGN KEY (users\_id) REFERENCES users(users\_id) |
| image\_url | varchar(200) |  |
| caption | varchar(200) |  |
| created\_at | Date |  |

Comments

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Constraints** |
| comment\_id | Number(5) | PRIMARY KEY |
| post\_id | Number(5) | NOT NULL FOREIGN KEY (post\_id) REFERENCES posts(post\_id) |
| users\_id | Number(5) | NOT NULL FOREIGN KEY (users\_id) REFERENCES Users(users\_id) |
| comment\_text | varchar(30) |  |
| created\_at | Date |  |

Likes

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Constraints** |
| like\_id | Number(5) | PRIMARY KEY |
| post\_id | Number(5) | NOT NULL FOREIGN KEY (post\_id) REFERENCES posts(post\_id) |
| users\_id | Number(5) | NOT NULL, FOREIGN KEY (users\_id) REFERENCES users(users\_id) |
| created\_at | Date |  |

Followers

|  |  |  |
| --- | --- | --- |
| **Column** | **Type** | **Constraints** |
| follower\_id | Number(5) | PRIMARY KEY |
| user\_id | Number(5) | NOT NULL, FOREIGN KEY (user\_id) REFERENCES users(users\_id) |
| follower\_user\_id | Number(5) | NOT NULL, FOREIGN KEY (follower\_user\_id) REFERENCES posts(post\_id) |
| created\_at | varchar(200) |  |