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ERD

1. All objects and its attributes can be seen in ERD

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| Objects | Attributes |
| Users | UserId  FirstName  LastName  School  Address  Email  PhoneNumber  Location  DateOfBirth  Gender |
| Friends | FriendId  UserId |
| Pages | PageId  PageName  PageContent |
| PageLikes | UserId  PageId |
| CommentLikes | UserId  CommentId |
| PostLikes | PostId  UserId |
| Shares | PostId  UserId |
| Posts | PostId  UserId  PostDate  PostContent |
| Photos | PhotoId  PostId  ImageContent |
| Comments | CommentId  PostId  UserId  CommentDate  CommentContent |

1. The relations between object can be seen in ERD

Master and Child: (master -> child)

Users -> Friends (one to many)

Users -> Shares (one to many)

Users -> PostLikes (one to many)

Users -> Posts (one to many)

Users -> PageLikes (one to many)

Users -> CommentLikes (one to many)

Users -> Comments (one to many)

Posts -> PostLikes (one to many)

Posts -> Shares (one to many)

Posts -> Photos (one to many)

Posts -> Comments (one to many)

Comments -> CommentLikes (one to many)

Pages -> PageLikes (one to many)

1. The constraints that will be used by me are ON UPDATE CASCADE and ON DELETE CASCADE to make sure if a data changes in master table, the data in child table is also changed. Other constraints are PRIMARY KEY, FOREIGN KEY, and CHECK (to check the inserting data). The detail can be seen in the .sql.
2. The ERD can be seen in ERD.jpg

DDL

1. Data integrity is a thing that used to make the data in the table accurate and consistent.
2. Primary Key: a column that uniquely identify each row in the table, must not be null and does not have limitations in inserting.

Foreign Key: a column that creates relationship with another table and has a limitation in inserting (the value of foreign key is taken from the value of primary key in another table).

Composite Key: combination of two or more columns to uniquely identify each row in a table.

One of the examples of primary key is UserId in Users object in the previous ERD.

One of the examples of foreign key is PostId in Photos object in the previous ERD.

One of the examples of composite key is UserId and PageId in PageLikes object in the previous ERD.

1. BEGIN TRAN: to begin transaction and locks table

COMMIT: save changes and unlock table

ROLLBACK: removes changes and unlock table

BEGIN TRAN

DELETE FROM tableName

ROLLBACK

COMMIT

1. The answer is in .sql

In the .sql file, there are some foreign key that I do not use ON UPDATE CASCADE and ON DELETE CASCADE due to cascade multiple paths, so I use ON UPDATE NO ACTION and ON DELETE NO ACTION