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ERD

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

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

2. 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)

3. 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.
4. 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.

3. 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

4. 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