

**Q1** Explain the difference between Lazy Loading and Eager loading and give an example.

**Q2** Make a mini web application by implementing API for Facebook with the following functionalities:

- User can make a post
- Users can friend other people/unfriend people
- Users can block other users. So when a blocked user tries to access this users profile, he doesn't see anything
- Each user will have a settings page in which they can specify -
  - Who can see their post:
    - Friends
    - Friends of Friends
    - public
- Create a login page for the user and validate each request with user email and password
- Use Hibernate with Mysql
- Users can see the list of blocked users
- Users can view the list of friends
- When a user makes a post, store it in a table with a postId. A user should be allowed to comment on this post as per the settings specified (friends, friend of friends, public)

**Q3**

- (i) create a git repository
- (ii) add some files to it and make a commit
- (iii) add some new file to it and do git checkout -b A
- (iv) commit that new file in this new branch
- (v) make a new branch, say B from A and add some files.
- (vi) add a few files in B and do commit
- (viii) Merge B into master
- (ix) push the changes remotely on GitHub.com
- (x) When you push the changes on GitHub.com, there will be an option you will see on top saying pull request/compare. Create a pull request between branches A and B
- (xi) Submit this pull request URL

**Q4**

What is a singleton class, and how you can implement a Singleton class both lazy and eager loading and explaining the pros and cons of each

**Q5**

Design classes ProcessData , CSVReader, PDFReader, DocReader. The classes CSVReader, PDFReader, DocReader implement a common interface with a method called read in it. You don't need to provide the actual implementation of the method. You can leave the method

implementations blank. The focus is on high-level design.

The data in any of the files CSV, pdf, or doc has a bank statement containing various transactions.

So the ProcessData needs to read this bank statement and print the total credits and debits.

Use Dependency injection to inject a Reader into ProcessData.

(PS: No need to provide an exact implementation of methods, its more about dependency Injection so a pseudocode or empty methods will also work). Describe the benefits of Dependency Injection in this case.

#### **Q6**

Explain the benefits of DAO Pattern and provide an example.