



## Assignment 3

Course	Software Construction and Development
Instructor	Sir Rana Waqas
Section	BSE-5B & BSE-5C

### Important Guidelines:

1. Copying assignments from others is strictly prohibited. If an assignment shows more than 20% similarity to any source (the maximum allowable limit), it will result in a score of zero for both current and previous assignments.
2. Submit your assignment on time. Late submissions will incur a 25%-mark deduction if submitted within 6 hours, a 50%-mark deduction if submitted within 24 hours, and submissions beyond 24 hours will result in a score of zero.
3. No marks will be awarded to individuals who do not submit the file on Google Classroom (GCR).
4. Only submit your Java files in a zipped folder. First, place all Java files in a single folder (do not create any subfolders), rename the folder with your roll number, then zip it. **Failure to follow this format will result in a score of zero.**

## Assignment Requirements:

The system created by FAST NUCES students is operating flawlessly, and the client liked the user interface. However, the system has experienced various problems since integration of UI. The client requests that the system be thoroughly evaluated with the JUnit test.

In order to allow users (both consumers and employees) to use the system remotely, the client also wants to put it online.

The customer also wants the system to allow several users to log in and use it at the same time.

## To complete this task:

The following must be put into practice in order to finish this task:

1. Create the JUnit test to make sure all lines and statements of the system are covered; identify and fix any mistakes in your GUI and business logic components. (refer to assignment 1 and 2)
2. Design the client-server architecture such that several users can log in at once. Each user will be handled independently by your server, which will also resolve file conflicts.
3. Thread creation is required in order to manage clients on your server.
4. The server will be in charge of managing the files; the client won't have any.

## Other Instructions:

Form a **group of three** people. This will give you three devices. Make two devices the clients and one the server. The clients should be handled in parallel by the server. Both customers and employees should be able to log in on the client device.

On the given sheet, write the names and roll numbers of the people in your group.

## Only One Submission per group is required

## Bonus:

In the event that you receive a lower grade on the assignment above, you will receive additional credit if you choose to build a database for this.