**FACILITATOR’S MANUAL**

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| Facilitator’s manual is a guideline to facilitator. Guideline for which all topics /sub-topics to be covered and their sequence. When to go recap or hands-on and with which assignment (mapping of lab assignments with topics)  Basically WHAT–WHEN-HOW  Here, Whole session will be in multiple iteration of 3 steps;  1. What to facilitate, 2. Relevant LAB assignments, 3. Recap and leanings from LAB  Also, there are TIPS (extract from facilitator’s learning) – objective of TIPS is to incorporate best practice and individual’s innovation in facilitating a particular topic. It is desirable that new tips should continue to add/update in this manual.  At last, this is not a rulebook, so it is upto facilitator to follow it or use his/her own style |

**JDBC**

**Objective -**  Awareness of JDBC API, drivers, type of database drivers, how to create DB connection, execute query and handle result, statement, callable statement and prepared statement, transactions, and batch update.

**ROUND 1**

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| Topics to be facilitated (teach) | * What is JDBC * JDBC API * Divers, Type of drivers * Steps to create db connection and execute query |
| LAB assignment | *Create a database; with a table name USER having columns (fields) – NAME and TECHNOLOGY. Enter some data in the table.*  **LAB 11.1**  *Write a program which fetch data from table (using JDBC) and display it on console*  **LAB 11.2**  *Write a program- in which, end user will enter a name, and system will return the technology to which that user belongs. Use Scanner for user interaction. If user not found in DB, system should show appropriate message.*  **LAB 11.3**  *Write a program, where system will receive new data from user (which is name and technology) and add it into database. The name must be unique, so system should not allow entering duplicate data. System should show appropriate message on successful insertion or otherwise.* |
| Recap (learning from the LAB assignment) | How to load DB driver, create connection, execute query, handle result |

**ROUND 2**

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| Topics to be facilitated (teach) | * Prepared statement * Callable statement |
| LAB assignment | **LAB 11.4**  *Execute the Lab 11.2 using prepared statement.* |
| Recap (learning from the LAB assignment) | What is prepared statement, how to create it and use it |

**ROUND 3**

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| Topics to be facilitated (teach) | * Transaction * Batch execute |
| LAB assignment | **LAB 11.5**  *Write a program- which use to add new entry in USER table; which is combination of name and technology.*  *Say, three are 4 insert query, and after 2 query executes, there is System.exit() to terminate program. Check the changes in DB for normal and transactional scenario.*  **LAB 11.6**  *Extension of Lab 11.5; add all 4 insert query in batch and then execute batch. System will execute (add data into database) in one go (batch update). It must be transactional (all or none)* |
| Recap (learning from the LAB assignment) | How to achieve transaction, and execute batch update |