Live Session: Java-Intermediate

Welcome to the live session on 'Java-Intermediate'. The live session length will be 2 hours. In this session,
the SME will be covering some of the intermediate concepts of Java.
This session will be mixed of Java and hands-on coding session and will be covering the following topics
in the agenda
● Debugging
● Problem Solving
Note for the SME:
● Code by sharing the screen and asking learners to code alongside. Throughout the session please do constantly follow up with the learner's progress and make sure everyone is following.
● Before running the code on a sample test case, ask the learners about their outputs. The code demos will be within IDE on a local machine.
● Please make sure to test run your codes/queries prior to the session to avoid any hick-up during the session.
● For each coding question practice using multiple approaches to help student reach to optimal solution through each approach.

Part I: Introduction (5 minutes)
Introduce yourself and congratulate the members so far for the learning sessions
Start with few interesting problems statements students would be able to solve by the end of session

Basics:(20 mins)
Teach them about debugging. Start with scenarios where debugging is essential. Hence show them why IDE with integrated tools makes debugging possible. Maybe start with a simple live bug recently resolved.

IDE: (15 mins)
Demo them the IDE you have setup on your system along with plugins/tools installed that would be helpful for debugging. Spend some time showing them various debugging navigation steps(eg. Step over, step into etc)

Doubts_pause: (2-5 mins)
Please check if they have any doubts from the topics covered so far

For Problem Solving the objective should be to inculcate thinking approach in students rather than covering more number of questions:

Puzzles(25 minutes):

- Introduce logical thinking through puzzle solving questions
- Share 3 puzzles(1 easy+ 2 medium) asked in interviews before, and work with students in solving them

Arrays(30 minutes):

- This session on arrays should be targeted at 3 major approaches for array questions:
    a. Sliding Window Technique(10 min, 1 easy question)
       https://www.geeksforgeeks.org/window-sliding-technique/
    b. Two Pointer Technique(10 min, 1 easy question)
       https://www.geeksforgeeks.org/java-program-for-two-pointers-technique/
    c. Count Sorting using Array(10 min, 1 medium question)
       https://www.baeldung.com/java-counting-sort

String(25 minues):

- This session on String should be an extension on the previous session and should target 2 famous algorithms used in strings. You can use following suggestions:
    a. Palindromic Detection
    b. Anagram Grouping
    c. Common supersequence
    d. Longest common subsequence

Whatever you pick from the above, make sure students are able to understand the algorithm, and are able to develop thinking capabilities to handle problem variations.