**Session 2025-2026**

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| **Vision:**  *To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration* | **Mission:** *To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem-solving skills through emerging technologies****.*** |

**Program Educational Objectives of the program (PEO):** (broad statements that describe the professional and career accomplishments)

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| PEO1 | **Preparation** | **P: Preparation** | **Pep-CL abbreviation**  **pronounce as Pep-si-lL easy to recall** |
| PEO2 | **Core Competence** | **E: Environment (Learning Environment)** |
| PEO3 | **Breadth** | **P: Professionalism** |
| PEO4 | **Professionalism** | **C: Core Competence** |
| PEO5 | **Learning Environment** | **L: Breadth (Learning in diverse areas)** |

**Program Outcomes (PO):** (statements that describe what a student should be able to do and know by the end of a program)

**Keywords of POs:**

Engineering knowledge, Problem analysis, Design/development of solutions, Conduct Investigations of Complex Problems, Engineering Tool Usage, The Engineer and The World, Ethics, Individual and Collaborative Team work, Communication, Project Management and Finance, Life-Long Learning

**PSO Keywords:** Cutting edge technologies, Research

“I am an engineer, and I know how to apply engineering knowledge to investigate, analyse and design solutions to complex problems using tools for entire world following all ethics in a collaborative way with proper management skills throughout my life.” *to contribute to the development of cutting-edge technologies and Research*.

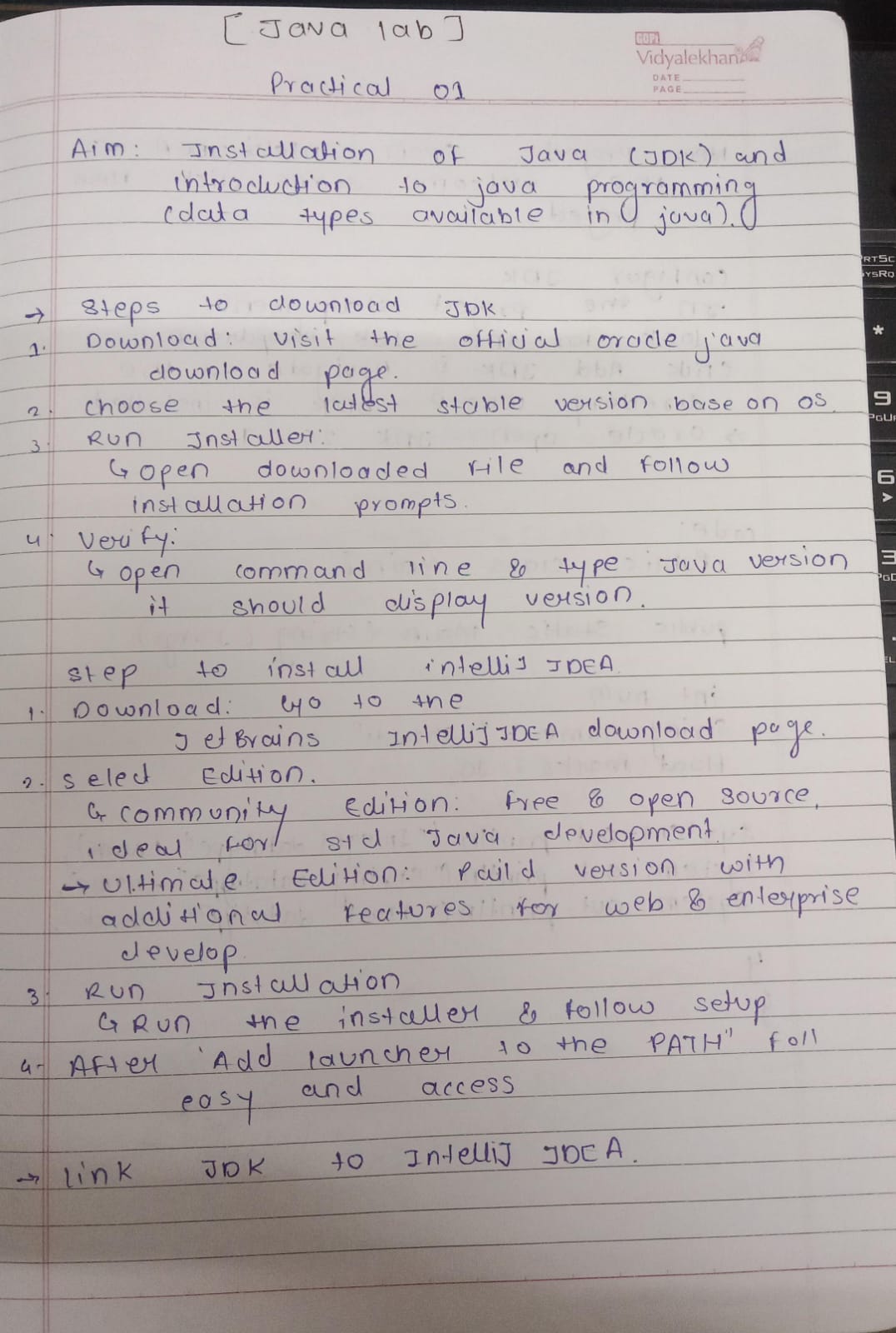
**Integrity:** I will adhere to the Laboratory Code of Conduct and ethics in its entirety.

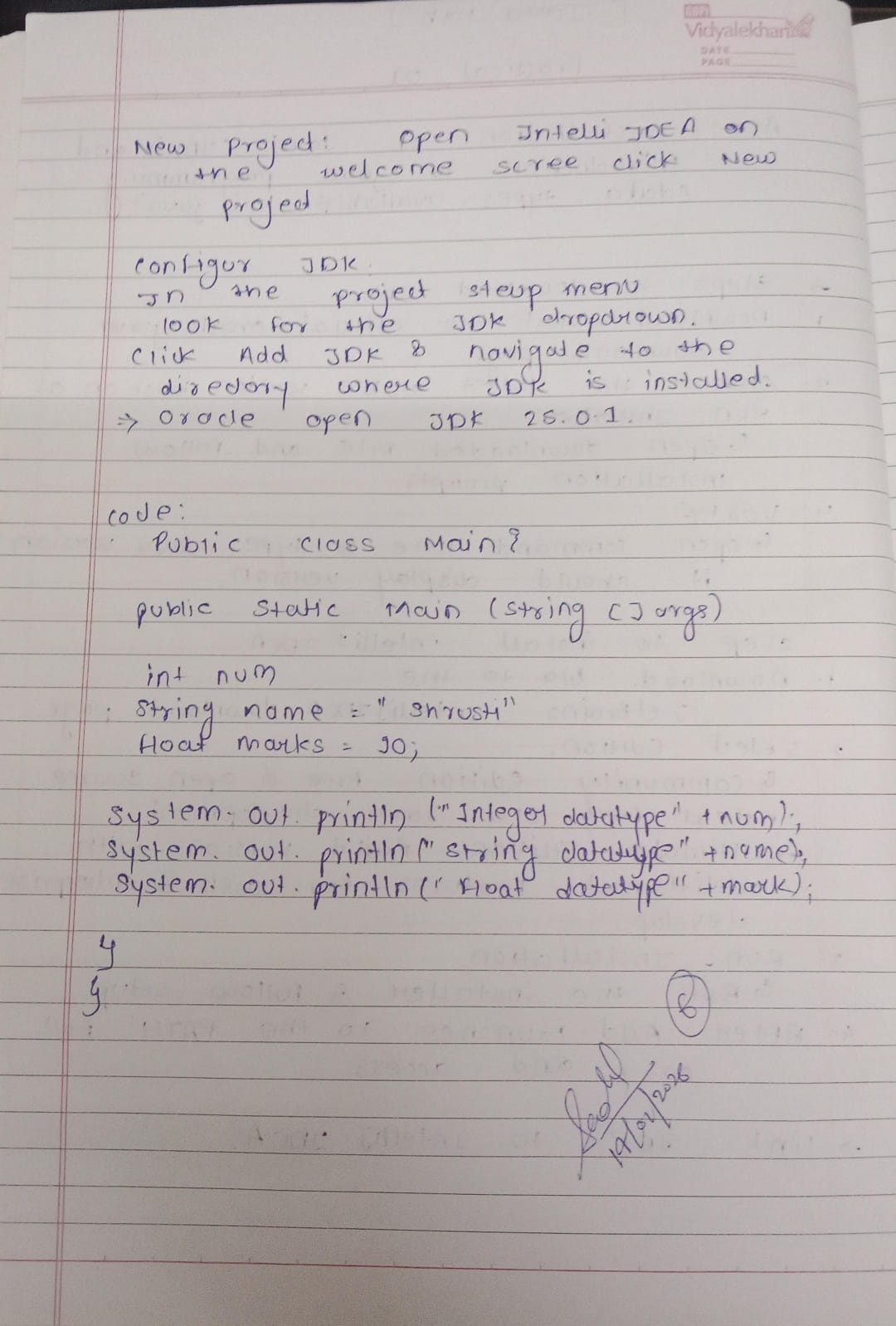
**Name and Signature of Student and Date**

(Signature and Date in Handwritten)

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| **Session** | **2025-26 (EVEN)** | | **Course Name** | **JAVA FSD Lab** | |
| **Semester** | **4th** | | **Course Code** | **23ADS1407** | |
| **Roll No** | **120** | | **Name of Student** | **Shrusti Katakwar** | |
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| Practical Number | | **01** | | | |
| Course Outcome | | **1. Develop backend applications using object-oriented programming concepts and implement data persistence using relational databases. 2. Design and implement interactive and responsive user interfaces using standard web technologies. 3. Build and integrate complete web applications by combining client-side and server-side components** | | | |
| Aim | | **Installation of JAVA (JDK) and introduction to Java**  **Programming ( data types available in java)** | | | |
| Problem Definition | | **Installation of JAVA (JDK) and introduction to Java**  **Programming ( data types available in java)** | | | |
| Theory  (100 words) | | 1. **Java is a high-level, object-oriented, and platform-independent programming language. It follows the principle “Write Once, Run Anywhere”, which means a Java program can run on any system having a Java Virtual Machine (JVM).** 2. **The Java Development Kit (JDK) is required to develop and execute Java programs. It consists of:** 3. **JVM – Executes Java bytecode** 4. **JRE – Provides runtime environment** 5. **Development tools like compiler (javac) and interpreter (java)** 6. **Steps for Installation of JDK** 7. **Download JDK from the Oracle website.** 8. **Install the software.** 9. **Set JAVA\_HOME and Path environment variables.** 10. **Verify installation using java -version.**   **Data Types in Java :**  **Data types define the type of data stored in a variable.**  **Java has two types of data type.**  **1. Primitive Data Types**  **They store simple values.**   * **byte – Integer** * **short – Integer** * **int – Integer** * **long – Large integer** * **float – Decimal value** * **double – Large decimal value** * **char – Single character** * **boolean – true or false**   **2. Non-Primitive Data Types**  **They store references to objects.**  **Examples: String, Array, Class, Interface** | | | |
| Procedure and Execution  (100 Words) | | Algorithm:  **Step 1 :**  Start  **Step 2 :**  Download the Java Development Kit (JDK) from the official Oracle website.  **Step 3 :**  Install the JDK by running the setup file and following the installation instructions.  **Step 4 :**  Set the **JAVA\_HOME** environment variable and update the **Path** variable with the JDK bin directory.  **Step 5 :**  Verify the installation by executing the command java -version.  **Step 6 :**  Create a Java source file with .java extension.  **Step 7 :**  Write a basic Java program using appropriate **data types**.  **Step 8 :**  Compile the program using the javac compiler.  **Step 9 :**  Execute the program using the java command.  **Step 10 :**  Stop | | | |
| Code: | | | |
| Output: | | | |
| Output Analysis | | * When the Java program is executed successfully, the **JVM starts execution from the main() method**. * Variables of different **data types** (int, float, double, char, boolean, String) are created and initialized. * The statement System.out.println() displays the **values of variables on the output screen**. * Each data type prints its value according to its nature:   + Integer data types display whole numbers.   + Floating-point data types display decimal values.   + char displays a single character.   + boolean displays either true or false.   + String displays a sequence of characters. * If there are **no compilation or runtime errors**, the output is displayed correctly on the console. | | | |
| Link of student Github profile where lab assignment has been uploaded | |  | | | |
| Conclusion | | **Java is a powerful, secure, and platform-independent programming language. Installing the JDK is the first step in Java development. Understanding data types is essential for effective programming as they define the nature and size of data stored in memory.** | | | |
| Plag Report (Similarity index < 12%) | |  | | | |
| Date | | **21/01/26** | | | |

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