

Practical No : 0

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→ Introduction to lab

Aim : ~~The aim of the computer in java programming is to provide a dedicated environment where student can acquires comprehensive knowledge and practice skills in java~~

Introduction : certainly A complete job is dedicated space equipped with computer and related technology for various purpose, such as research, learning and work. these labs are commonly found in educational institution business and facilities.

- 1) Start by explaining how to get java development environment in computer job. this could typically installing a java Development kit and development
- 2) Walk through the process of creating a simple "Hello World" program in java. Explain the basic structure of java program, including the public static void main (String [] args) method.
- 3) show how compile and run a java program is immutable it can't simply append " world " to result java program using command line or the IDE

Theory : Block explain the silence string is immutable it can't simply append "would" but that it has make a copy of both equal operand then combine them and create a new string to hold the result. the copy operation is very expensive he assert that it is quadratic time operation. so in theory we should expect to see the performance of String is much faster than string.

Procedure : Ensure that java an installed on all computer in the lab. you can download the lasted version of java from the official oracle website or use an open source distribution like open JDK IDE (Integrated Development Environment) choose and install Java IDE for programming. Popular choice include eclipse, IntelliJ IDEA, and NetBeans. This will provide a user friendly environment for writing and running java code. Prepare a set of sample java program, that cover various concepts from basic syntax to more advanced topics.

The program can serves as exercises for student to practice, create specific programming assignment or project student to work on during lab sessions. Ensure, that assignment align with the topics covered in your course.

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Advantages :

- 1) Platform Independent → java program can run on my device with a java virtual machine JVM this platform is a significant advantage especially in device computer lab environment.

- 2) Object oriented → Java's object oriented approach encourages good design practice and modularity making it easier to manage larger, complex projects.

- 3) Rich standard Library → java provides a robust set of libraries for tasks like network programming database and user interface.

Disadvantages :

- 1) Performance : while java performance has improved over the years it may not be as fast as languages like C++ in scenarios where high performance is critical java might not be the best choice.

- 2) Memory Consumption : Java programs tend to consume more memory compared to languages like C in a computer lab with limited resources.

- 3) Steep Learning Curve : Java, being a strictly typed language might have a steeper learning curve for beginners compared to other languages.

Conclusion :

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Conclusion :- The Java project give a complete design for the extended language.

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