

# Prologue

## Description

The Programming in Java course helps the students to develop efficient and robust applications by using the Java programming language. It also describes how to create inner classes and generic classes. In addition, this course discusses the implementation of type casting, localization, threads, thread synchronization, and concurrency. Further, it discusses the various classes of the `java.util`, `java.io`, and `java.nio` packages.

The course also explains how to work with regular expressions and how to create multithread applications. Further, it discusses the Java Database Connectivity architecture and implementation of database connectivity.

## Rationale

Today, there are varied electronic devices available in the market. To work with these electronic devices, different applications are used. These applications are developed by using different programming languages, such as C, C++, Java, and C#. However, the applications developed by using programming languages like C and C++ do not support cross-platform portability.

Java is an object oriented programming language that helps to develop real-life portable applications. We can create both, CUI-based application and GUI-based application, by using Java. The code reusability feature of Java enables software developers to upgrade the existing applications without rewriting the entire code of the application.

## Objectives

After completing this course, the students will be able to:

- Implement inner classes and type casting
- Work with regular expressions and localization
- Work with generics
- Work with collections
- Work with threads
- Implement thread synchronization and concurrency
- Work with streams
- Work with NIO classes and interfaces
- Get familiar with JDBC
- Create applications using advanced features of JDBC

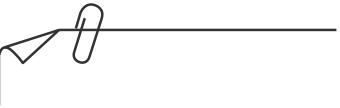
## **Entry Profile**

The students who want to take this course should have basic knowledge of logic building and effective problem solving.

## **Exit Profile**

After completing this course, the students will be able to develop object-based applications in Java.

# Conventions

<i>Convention</i>	<i>Indicates...</i>
	<i>Note</i>

