# Report Title

## Table of Contents

1. Introduction
   * Purpose of the report
   * Overview of Java and its key features
2. Object-Oriented Programming (OOP) in Java
   * Core OOP Principles
     + Encapsulation
     + Abstraction
     + Inheritance
     + Polymorphism
   * Implementation in Java
     + Example codes demonstrating each principle
   * Advantages of OOP in Java
     + Benefits and reasons for using OOP
3. Threading in Java
   * Purpose and Benefits
     + Importance of multithreading in Java applications
   * Creating and Managing Threads
     + Extending the Thread class
     + Implementing the Runnable interface
   * Threading Concepts
     + Thread synchronization
     + Deadlocks and race conditions
     + Handling synchronization issues
   * Examples of Multithreading in Java
     + Real-world applications using multithreading
4. GUI and Client-Server Applications
   * Java GUI Frameworks
     + Overview of Swing and JavaFX
     + Features and capabilities
   * Building Interactive GUIs in Java
     + Demonstration of GUI development
   * Client-Server Architecture in Java
     + Components and communication flow
   * Example of Client-Server Application
     + Implementation details and interaction flow
5. Database Connectivity in Java
   * Importance of Database Integration
     + Role of databases in Java applications
   * JDBC (Java Database Connectivity) API
     + Explanation of JDBC and its usage
   * Executing SQL Queries
     + Code examples for CRUD operations
   * Java Application with Database Connectivity
     + Example demonstrating database interactions
6. Conclusion
   * Summary of key points covered
   * Importance of understanding these topics in Java development
7. References
   * List of sources and materials used

### Notes:

* Introduction: Provide a brief introduction to the report, outlining its purpose and the importance of the covered topics in Java programming.
* Each Section (1-4): For each topic, ensure to cover all specified points thoroughly. Include clear explanations, relevant code examples (with comments), and references where necessary.
* Conclusion: Summarize the main findings and insights from the report. Highlight the practical implications of understanding OOP, threading, GUI development, and database connectivity in Java.
* References: Include citations to any external sources used in your report to support your explanations and examples.