Home Assignment <3A>: Demonstrating Interface in Java

Learning Objective:

To gain a clear understanding of **Interface** in Java by implementing an interface and its methods related to database connection.

Expected Completion Time:

Best Case: 15 minutes
Average Case: 20 minutes

Assignment Details:

Design an interface **DatabaseConnection** with abstract methods representing various database methods and implement those methods in a Concrete class **JavaConnection.**

Requirements:

- Create an interface **DatabseConnection** with the following abstract methods:
    - connect()
    - disconnect()
    - executeUpdate()
- Implement the interface in a Concrete class.
- Provide concrete implementations for the abstract methods in the Concrete class.

Hints to Solve:

- Use appropriate keyword to indicate that a class is implementing an interface.

Reference Links:

Abstraction in Java - Oracle Docs

Expected Outcome:

Upon completion, you should be able to:

- Grasp the concept of Interface in Java, including interfaces and concrete class.
- Created a practical example of how Interface allows for the definition of a common structure while leaving specific implementations to subclass.

Home Assignment <3B>: Demonstrating Abstraction in Java

Learning Objective:

To understand and implement the concept of **Abstraction** in Java by creating interface, an abstract class and a concrete class with the context of database connections

Expected Completion Time:

Best Case: 20 minutes
Average Case: 30 minutes

Assignment Details:

Design an abstract class that implements an interface with abstract methods for creating and managing database and further implement those methods in a concrete class.

Requirements:

- Create an Interface **DatabaseConnection** with the following abstract methods:
    - connect()
    - disconnect()
    - executeUpdate
- Create an Abstract Class **MySqlConnection** that implements **DatabaseConnection** interface and adds `executeQuery()`
- Create a Concrete Class **JavaConnection** that inherits MySqlConnection, implementing methods.

Hints to Solve:

- Utilize appropriate keywords to signify that a class is implementing an interface.
- Implement abstract methods in the concrete class to provide specific functionality

Reference Links:

Abstraction in Java - Oracle Docs

Expected Outcome:

Upon completion, you should be able to:

- Grasp the concept of Abstraction in Java, including interface and concrete class.
- Created a practical example of how abstraction allows for the definition of a common structure while leaving specific implementations to subclass.