Ans: The dialog created with JDialog can be customised in any form the user wants. Also with JDialog, a window's default cloasing behaviour is available with minimize, maximaize and close buttons.

A dialog created with JOptionPane can be one of the four pre-defined styles. Also, it only offers a close button for window closing.

Unsolved Questions:

1. What are the various type of dialog options supported by JOptionPane?

2. Name four methods associated with JOption dialog.

3. Explain the various possible value for Option type property of JOptionPane dialog.

CHAPTER 9

JAVA DATABASE CONNECTIVITY TO MYSQL

Brief Summary of the Chapter:

In this chapter we shall know how to connect the front end NetBeans application with back-end databases through JDBC,ODBC for making GUI applications.

KEY POINTS:
> **Classes used for Database Connectivity**

- Driver Manager Class,
- Connection Class,
- Statement Class,
- ResultSet Class

> **Prerequisites for connecting to MySQL from Java**

MySQL provides connectivity for client applications developed in the Java Programming language via a JDBC driver known as MySQL Connector/J

> **Connection:**

A connection is the session between the application program and the database. To do anything with database, one must have a connection object.

> **Connecting to MySQL from Java :**

Steps for Creating Database Connectivity Application
There are mainly six steps –
Step-1 Import the Packages Required for Database Programming.
Step-2 Register the JDBC Driver
Step-3 Open a Connection
Step-4 Execute a Query
Step-5 Extract Data from Result set
Step-6 Clean up the Environment
Now to connect to a database, you need to know database's complete URL, the user's Id and password-
Jdbc:mysql://localhost/<database-name>?user="username" & password="password"

> **ResultSet Methods**

A result set (represented by a ResultSet object) refers to a logical set records that are fetched from the database by executing a query and made available to the application –program. There are various resultSet methods such as:-

- next( )   :moves the cursor forward on row.

- first( )   :moves the cursor to the first row in the ResultSet Object.

- Last( )   :moves the cursor to the last row in the ResultSet object.

- relative(in rows)   :moves the cursor relative to its current position.

- Absolute(int rno) :positions the cursor on the rno-th row of the ResultSet object.

- getRow( )   :Retrieves the current row number the cursor is pointing at.

That is if cursor is at first row the getRow( ) will return 1.

SOLVED QUESTIONS:

1. What is the importance of java.sql.*; in java jdbc connection ?

   Ans: The java.sql.package has to be imported first before we can create a java jdbc connection to the database.

6. What is DriverManager ?

   Ans: DriverManager a class of java.sql package that controls a set of JDBC drivers. Each driver has to be registere with this class.

7. What is the purpose of connection.close() method?

   Ans: This method is used for disconnecting the connection. It frees all the resources occupied by the database.

8. Name the four components of JDBC.

   Ans:JDBC consisits of four components: The JDBC API, JDBC Driver Manager, The JDBC Test Suite and JDBC-ODBC Bridge.

9. What are the steps involved in establishing a connection?

   Ans:To establishing a connection we need to follow two steps: a) loading the driver and b) making a connection.

10. What is ResultSet ?

    Ans:A result set (represented by a ResultSet object) refers to a logical set of records that are fetched from the database by executing a query and made available to the application program.

11. What type of parameter that used in executeQuery( ) method?

    Ans: The executeQuery( ) method has a single String parameter. This parameter must be valid SQL command.

12. What is Connection? What is its role?

    Ans: A Connection (represented through Connection object) is the session between the application program and the database. To do anything with database, one must have a connection object.

13. What all JDBC classes/objects are used in a database connectivity application?

    Ans: a) DriverManager Class   b) Connection Object   c)Statement Object d) ResultSet Object

14. What is JDBC? What is its basic functionality?

    Ans: The JDBC(Java Database Connectivity) API defines interfaces and classes for writing database applications in Java by making database connections. Using JDBC we can send SQL, PL/SQL statements to almost any relational database. JDBC is a Java API for executing SQL statements and supports basic SQL functionality. It provides RDBMS access by allowing us to embed SQL inside Java code. Because Java can run on a thin client, applets embedded in Web pages can contain downloadable JDBC code to enable remote database access.

15. What is the JDBC-ODBC Bridge?

Ans: The JDBC-ODBC Bridge is a JDBC driver which implements JDBC operations by translating them into ODBC operations. To ODBC it appears as a normal application program. The Bridge implements JDBC for any database for which as ODBC driver is available. The Bridge is implemented as the sun.jdbc.odbc Java package and contains a native library used to access ODBC.

16. Explain the purpose of DriverManager.

Ans:The DriverManager looks after the managing the drivers for a JDBC application. When it is instantiated it makes an attempt to load the driver classes. When the method getConnection( ) is invoked, the driver manager attempts to locate the suitable driver. The DriverManager obtains the information about the drivers such as registering, locating, finding the drivers loaded, setting the time to wait when it tries to get the connection to a database.

17. Name the methods which are useful for executing SQL statements.

Ans: There are two methods which are responsible for executing SQL statements. These are:

- **executeQuery( )- For SQL statements that produce a single result set (like simple SQL query).**
- **executeUpdate( )- For executing INSERT,UPDATE OR DELETE statements and also SQL DDL(Data Definition Language) statements.**

Unsolved Questions:

1**.** Differentiate between JDBC and ODBC ?

2. What are the main tasks of JDBC ?

3. What are the various steps involved in establishing a JDBC connection?

4. Name the method used to trigger an update query using JDBC.

CHAPTER 10
WEB APPLICATION DEVELOPMENT

Brief Summary of the Chapter:

World Wide Web is an example of an information protocol/service that can be used to send and receive information over the internet. It supports:

- Multimedia Information (Text, Movies, Pictures, Sound, Programs etc…)
- Hyper Text Information :(Information that contains links to other information resources)
- Graphical User Interface :(So users can point and click to request information instead of typing in text commands)

The World Wide Web is an example of an information protocol/service that works using a Client/Server software design. A service that uses Client/Server design requires two pieces of software to work: Client software (e.g. Web Browser) to request information, and Server software(Web server) to answer requests and provide their information. Most Web applications are designed this way.

Key Points of the Chapter:

Uniform Resource Locator: The uniform resource locator (URL) is the unique identifier of a web page. The address or URL of the current page you are on appears in the "Address Bar" of the web browser.

What is Web Server: Web server delivers (serves) content, such as web pages, using the Hypertext Transfer Protocol (HTTP), over the World Wide Web.