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**What Class.forName will do while loading drivers of JDBC?(T6)**

It is used to create an instance of a driver and register it with the DriverManager. When you have loaded a driver, it is available for making a connection with a DBMS.

**What is SQLException?(T7)**

The SQLException class provides information on a database access error. EachSQLException provides several kinds of information: a string describing the error. This is used as the Java Exception message, and is available via the getMesage() method.

**What is the difference between execute query and update query? (T8)**

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| --- | --- |
| **executeQuery** | **executeUpdate** |
| 1. It expects only an SQL statement that generate results. | 1. It is to execute statements that change the contents of the database rather than return results. |
| 2. It returns the resultSet. | 2. It returns the number of rows affected by the operations. |

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**Difference between PreparedStatement & Statement?**

Ans: Statement: It is used to implement simple SQL statements with no parameters.

PreparedStatement: It is used for pre-compiling SQL statements that might contain input parameters. See [Using Prepared Statements](https://docs.oracle.com/javase/tutorial/jdbc/basics/prepared.html) for more information.

Ex: preparedStatement pstmt =con.prepareStatement("update FIRST\_TABLE set job\_code = ? where name = ? ");

pstmt.setInt(1,2); pstmt.setString(2,"JOHN");

**What is JDBC?**

Ans: JDBC stands for Java Database Connectivity. It is a Java database connectivity technology from Oracle Corporation. This technology is an API for the Java programming language that defines how a client may access a database. It provides methods for querying and updating data in a database.

**What are the common tasks or steps of JDBC?**

1.Create an instance of a JDBC driver or load JDBC drivers through jdbc.drivers;  
2. Register a driver;  
3. Specify a database;  
4. Open a database connection;  
5. Submit a query;  
6. Receive results

**What is ResultSet object?**

A ResultSet is a Java object that contains the results of executing an SQL query. In other words, it contains the rows that satisfy the conditions of the query.

A default ResultSet object is not updatable and has a cursor that moves forward only.

**What is JDBC driver and Driver Manager?**

A JDBC driver is a [software](https://en.wikipedia.org/wiki/Software) component that enables a [Java](https://en.wikipedia.org/wiki/Java_%28programming_language%29) application to interact with a [database](https://en.wikipedia.org/wiki/Database). It translates API calls into operations for a specific data source.

DriverManager is a software component that loads database drivers and manages the connection between the application and the driver.

**What is DefaultMutableTreeNode & DefaultTreeModel?**

A DefaultMutableTreeNode is a general-purpose node in a tree data structure. DefaultMutableTreeNode provides operations for examining and modifying a node's parent and children.

DefaultTreeModel is a simple tree data model that uses TreeNodes.

**What is DTD?**

A DTD (Document Type Definition) allows us to:

* Define a specific set of tags with specific relationships to one another
* Define default values for attributes
* Define additional text and binary entities, along with their associated notations Indicate the starting (root) element

**What is an XML namespace?(T9)**

An XML namespace is a collection of names that can be used as element or attribute names in an XML document.

XML namespaces are used for providing uniquely named elements and attributes in an XML document.

**What is Well Formed XML Document?(T10)**

A "Well Formed" XML document has correct XML syntax.

The syntax rules are:

* XML documents must have a root element
* XML elements must have a closing tag
* XML tags are case sensitive
* XML elements must be properly nested
* XML attribute values must be quoted

**What is a Parser?**

XML Parser provides a way to access or modify data in an XML document. Java provides multiple options to parse XML documents. Following are the several types of parsers.

Dom Parser, JDOM Parser, DOM4J Parser, SAX Parser, StAX Parser, XPath Parser

**Differences Between XML and HTML?**

|  |  |
| --- | --- |
| XML | HTML |
| eXtensible Markup Language | Hypertext Markup Language |
| user defined tags | predefined tags |
| An XML document can't be HTML | An HTML document can be XML |
| XML tags are sensitive | HTML tags are case insensitive |
| End tags required for well formed documents | End tags not required |

**What is XML?**

XML stands for Extensible Markup language. XML is a markup language much like HTML that was designed to carry data but not to display data.

**What is XML Schema?**

XML Schema is commonly known as XML Schema Definition (XSD). It is used to describe and validate the structure and the content of XML data. XML schema defines the elements, attributes and data types.

**What is an Activity Diagram What are its purpose?**

Activity diagram is another important diagram in UML. Activity diagram is basically a flowchart to represent the flow from one activity to another activity. Activity diagram can be used for the following purpose:

1. To model a task
2. To describe a system function that is represented by a use case.
3. In operation specifications, to describe the logic of an operation.
4. In USDP to model the activities that make up the life cycle.

**How does a collaboration diagram differ from class diagram?**

A collaboration diagram shows only those classes that collaborate to provide the functionality of a particular use cases (or operation); the links that are shown are those that are required for that purpose.

A class diagram typically shows all the classes in a particular package and all the associations between them.

**What do you mean by Prototyping? What are the steps to prepare prototype?(T4)**

In software development a prototype is a system or a partially complete system that is build quickly to explore some aspect of a system requirements and that is not intended as the final working system.

Main system require to prepare prototype

1. Perform an initial analysis.
2. Define prototype objectives.
3. Specify prototype.
4. Construct prototype.
5. Evaluate prototype and recommend change.

**Phases of waterfall life cycle.**

System engineering **>>** Requirements analysis **>>** Design **>>** Construction

Testing **>>** Installation **>>** Maintenance

**Difference between sequence diagram and collaboration diagram**

|  |  |
| --- | --- |
| Sequence diagram | Collaboration diagram |
| 1. Sequence diagram shows an interaction between objects arranged in a time sequence. 2. Sequence diagrams have a time dimension. 3. It does no show the link between object. | 1. Collaboration diagram shows an interaction between object and the content of the interaction in terms of the links between the objects. 2. Don not have time dimension. 3. It shows the link between objects. |