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**. Packages and Access Modifiers**

**1) Java Packages: Built-in and User-Defined Packages**

**Answer:**

# 1. Built-in Packages

These are the packages provided by Java's standard library. They contain pre-written classes and methods to help with various functionalities such as input/output, data structures, networking, utilities, and more.

# 2. User-Defined Packages

These are packages created by developers to organize their own classes, interfaces, and subpackages for a specific application. They help keep the code modular, reusable, and manageable. **2) Access Modifiers: Private, Default, Protected, Public Answer:**

# Types of Access Modifiers

Java has four types of access modifiers:

1. **Private**
2. **Default (No Modifier)**
3. **Protected**
4. **Public**

## 1. Private

* **Scope**: The member is accessible **only within the same class**.
* **Purpose**: Used to achieve encapsulation and restrict access to sensitive data.

## 2. Default

* **Scope**: The member is accessible **only within the same package**.
* **Purpose**: Restricts access to other packages while allowing usage within the package.

## 3. Protected

* **Scope**:
  1. Accessible **within the same package**.
  2. Accessible **in subclasses (even in different packages)**.
* **Purpose**: Allows controlled inheritance and sharing among related classes.

## 4. Public

* **Scope**: The member is accessible **everywhere** (across all classes and packages).
* **Purpose**: Provides universal access to the member.

# 3) Importing Packages and Class path

**Answer:** Java packages organize code into namespaces. To use classes or interfaces from other packages, they need to be **imported** into your Java program.

**Explicit Import**: Imports a specific class or interface from a package.

**Wildcard Import**: Imports all classes and interfaces from a package

The **class path** is an environment variable or command-line parameter that specifies the location of class files and packages for the Java Virtual Machine (JVM). It tells the JVM and compiler where to find user-defined classes and packages, as well as Java standard libraries.

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