Reuse of already developed software is one of the main objectives of object-oriented programming (OOP). For proper management of classes and interfaces, the related classes and interfaces are grouped into packages and sub packages.

**Packages as Name Space**

One of the advantages of arranging the classes and interfaces into packages is that a package provides a name space in which the classes and interfaces have unique names. Same names may be used in different packages without the risk of ambiguity because the fully qualified name of a class includes the name of the package to which it belongs. Similarly, the class name and interface also provide name spaces in which the names of variables and methods are unique.

A package comprises a group of similar type of classes, interfaces, and sub-packages. It is defined with the keyword package followed by the name of the package and a semicolon, as illustrated in the following figure.

Diagram

Description automatically generated

Package statement is the first statement in a program. No other code line can be placed above it except the comments that are neglected by the compiler.

**Path and Class Path**

If the Java programs are to be run on Command Prompt, the programmer must know how to set PATH and CLASSPATH. Otherwise, when you want to compile with command javac, you would get the output “‘javac’ is not recognized as an internal or external command, operable program or batch file.”

The PATH is an environmental variable used by the operating system to find the executive binary files like javac, which compiles the source code into bytecode, and java, which interprets the bytecode through JVM for execution of the program and other such commands. Path tells the system where to locate the JDK files that contain these commands. If the programmer is using classes or packages other than the Java standard library, their location is specified by specifying classpath. The directory tree after the Java Development Kit (JDK) has been installed in Windows OS would look as illustrated in FigThe path is indicated by arrows.

Diagram

Description automatically generated

**Path**

For running this program, path has been set on Command Prompt to locate JDK files.

Set the path by typing and entering the following

set path=%path%;C:\Program Files\Java\jdk1.8.0\_65\bin

**classpath**

To run the compiled class of program by simply setting the classpath.

which we use only the java command for running the already compiled class. Since classpath is set, the computer knows where to locate the file.

Once compiled, you do not have to compile it again.

You can simply run it by providing classpath as

set classpath=%classpath%;C:\Myproject

Table

Description automatically generated

