SOS in Computer Science and Applications, Jiwaji University

Course : MCA Fourth Semester
MCA403 : JAVA PROGRAMMING
Topic: Package in Java
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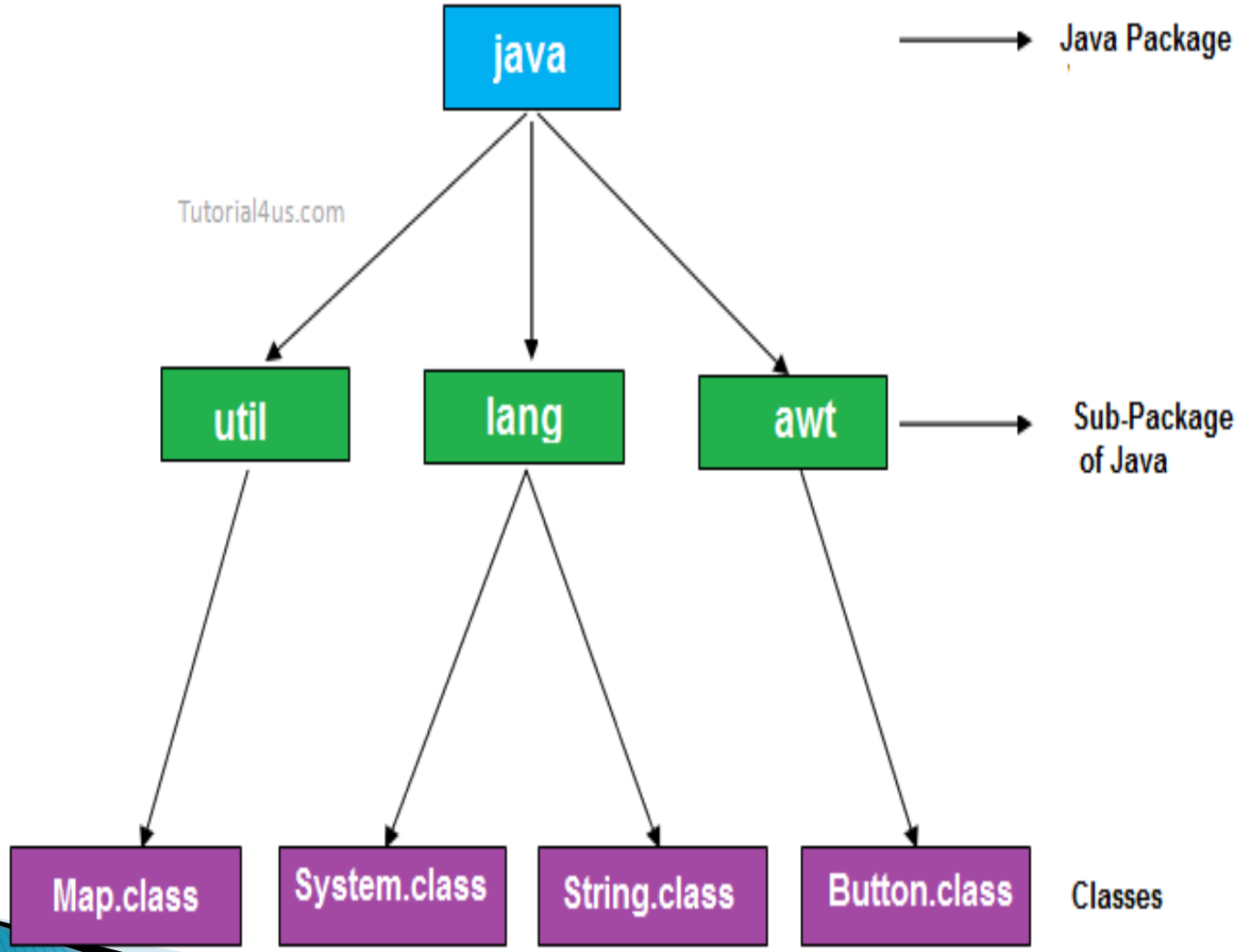
Package in Java

- A package is a collection of similar types of classes, interfaces and sub-packages.

Purpose of package :

- The purpose of package concept is to provide common classes and interfaces for any program separately. In other words if we want to develop any class or interface which is common for most of the java programs than such common classes and interfaces must be place in a package.


java
Java Package
Tutorial4us.com
util
lang
awt
Sub-Package
of Java
Map.class
System.class
String.class
Button.class
Classes

Type of package

- Package are classified into two type which are given below.
- Predefined or built-in package
- User defined package.

Predefined or built-in package

- These are the package which are already designed by the Sun Microsystems and supply as a part of java API, every predefined package is collection of predefined classes, interfaces and sub-package.

User defined package

- If any package is design by the user is known as user defined package. User defined package are those which are developed by java programmer and supply as a part of their project to deal with common requirement.

Rules to create user defined package

- package statement should be the first statement of any package program.
- Choose an appropriate class name or interface name and whose modifier must be public.
- Any package program can contain only one public class or only one public interface but it can contain any number of normal classes.
- Package program should not contain any main class (that means it should not contain any main()).
- Every package program should be save either with public class name or public Interface name.

Advantage of package

- Package is used to categorize the classes and interfaces so that they can be easily maintained
- Application development time is less, because reuse the code
- Application memory space is less (main memory)
- Application execution time is less
- Application performance is enhance (improve)
- Redundancy (repetition) of code is minimized
- Package provides access protection.

Compile package programs :

For compilation of package program first we save program with public className.java and it compile using below syntax:

Syntax-

```
javac -d . className.java

javac -d path className.java
```

Explanations:

In above syntax **"-d"** is a specific tool which is tell to java compiler create a separate folder for the given package in given path. When we give specific path then it create a new folder at that location and when we use . (dot) then it crate a folder at current working directory.

Example

```
import mypack.A;
public class Hello
        {
        public static void main(String arg[])
                {
                    A a=new A();
                    a.show();
                     System.out.println("show() class
A");
                }
          }//class
```

Difference between Inheritance and package:

Inheritance concept always used to reuse the feature within the program between class to class, interface to interface and interface to class but not accessing the feature across the program.

Package concept is to reuse the feature both within the program and across the programs between class to class, interface to interface and interface to class.

Difference between package keyword and import keyword :

Package keyword is always used for creating the undefined package and placing common classes and interfaces.

import is a keyword which is used for referring or using the classes and interfaces of a specific package.