

Aim : Create, debug and run Java program based on package.

Theory :

A Java package is a group of similar type of classes, interfaces and sub-package.

package in Java can be categorized in two form, built-in-package and user-defined package.

Built-in Packages

The Java API is a library of prewritten classes, that are free to use, included in Java Development Environment.

The library contains component for managing input, data-base programming, and much much more.

The library is divided into Packages and classes. meaning 'you can either import a single class [along with its method and attributes], or a whole package that they contains all the classes that belong to the specified package.

User - defined Packages

To create your own package, you need to understand that Java uses a file system directory to store them. Just like folders on your computer.

Example

```
└─ Root
  └─ mypack
    └─ myPackageClass.java
```

Syntax

`import Package.name.class;` // Import a single class

`import Package.name*;` // Import the whole package.

Advantage of Java Package.

1] Java package is used to categorize the classes and interfaces so that they can be easily maintained.

2] Java package provide access protection.

3] Java package Removes naming collision

Subpackages: packages that are inside another package are the Subpackage. These are not imported by default, they have to be imported explicitly. Also members of Subpackage have no access privileges i.e., they are considered as different package for protected and default access specifiers.

Example:

```
import java.util.*;
```

util is a Subpackage created inside Java package.

Conclusion: Hence, we successfully create, debug and run Java based on package.

Program :-

```
package pack ;  
public class A {  
    public void msg () {  
        System.out.println (" Hello ");  
    }  
}
```

```
package mypack ;  
import pack . * ;  
class B {  
    public static void main (String args []) {  
        A obj = new A();  
        obj.msg();  
    }  
}
```


C:\Windows\System32\cmd.exe

```
C:\Users\Public\Java\Practicals>javac -d . A.java
```

```
C:\Users\Public\Java\Practicals>javac -d . B.java
```

```
C:\Users\Public\Java\Practicals>java mypack.B  
hello
```

```
C:\Users\Public\Java\Practicals>
```