**Packages-**

1. Package is nothing but collection of classes, interface and sub-packages that’s works together.

2. Types of the Packages:-

Package can be a built in package and user defined package.

The built in package are like Java.lang, java.util,java.sql etc. We can create our own package.

**Why?**

Suppose imagine, if you have large number of files in your project that is deployed on server, now the code is released on production server. There are bugs in specific files then how you can reach to that file without packages is very difficult. If you have packages then it will get very easy to go specific folder and locate that file. That’s why packages comes into picture.

**Advantages**

Avoids naming conflict.

Re-usability- we can place the common code into one folder and reuse it.

Maintenance- if any new developer/tester joined your company then it will be easy to find the file which they need.

**Syntax-**

com.wipro.jpmorgan.insurance.policy.education

Here,

Package are generally starts with com folder.

wipro is your company name.

jpmorgan is your client name.

insurance is your project name.

policy is your module name.

education is your sub-module name.

**Note**- All words are starts with small case letters only.

**import:-**

The import statement is required if we want to use class present in one package into some other package.

Example- suppose we have two different classes Test & Example in different packages.

|  |
| --- |
| ***//First class***  ***package*** *com.velocity;*  ***public******class*** *Test {*  *//method or variable*  ***public******void*** *m1() {*  *System.****out****.println("this is the m1 method");*  *}*  *}* |
| ***//Second class***  ***package*** *com.wipro.jpmorgan;*  ***public******class*** *Example {*  ***public******static******void*** *main(String[] args) {*  *Test test=* ***new*** *Test();*  *}*  *}* |

In the test class, we are calling the method of test class, so we need to use the import statement here. Otherwise it will give compile time error

To resolve this issue, we need to import the highlighted line that is Import **import** ’Test’(com.velocity) by just clicking on it.

**Different ways for import-**

|  |
| --- |
| ***import*** *com.velocity.Test; //correct*  ***import*** *com.velocity.\*; //correct- it will import the all the classes.*  ***import*** *com.velocity; //wrong* |

**Scanner in java:-**

Whenever we want to take input from the user at that time we are going to use Scanner class.

Scanner is a class in java.util package used for obtaining the input of the primitive types like int, double, etc. and strings. It is the easiest way to read input in a Java program.

* To create an object of Scanner class, we usually pass the predefined object System.in where ‘System’ is a class and ‘in’ is a static variable of System class. ‘in’ is a object of type “PrintStream”.
* To read numerical values of a certain data type, the method to use is nextXYZ(). For example, to read a value of type short, we can use nextShort() and so on.
* To read strings, we use nextLine().

Example-1

**import** java.util.Scanner;

**public** **class** Demo {

**public** **static** **void** multiplication(**int** no) {

**for** (**int** i = 1; i <= 10; i++) {

**int** c = no \* i;

System.***out***.println(no + "\*" + i + "=" + c);

}

}

**public** **static** **void** main(String[] args) {

System.***out***.println("Enter the number for multiplication>>");

Scanner scanner = **new** Scanner(System.***in***);

**int** x = scanner.nextInt();

System.***out***.println("value>>" + x);

*multiplication*(x);

}

}

Example-2

**import** java.util.Scanner;

**public** **class** Test{

**public** **int** add(**int** a, **int** b) {

**int** c = a + b;

**return** c;

}

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.println("Enter the first number>>");

**int** firstNumber = scanner.nextInt();

//take the input from user use nextInt();

System.***out***.println("Enter the second number>>");

**int** secondNumber = scanner.nextInt();

System.***out***.println("first Number>>"+firstNumber);

System.***out***.println("second Number>>"+secondNumber);

Demo demo = **new** Demo();

**int** add=demo.add(firstNumber, secondNumber);

System.***out***.println("Addition>>"+add);

}

}