Department: BCA
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Subject: JAVA (5th sem.)
Topic: Builtin Package

Types of packages:

```
                    ┌──────────────┐
                    │  Packages    │
                    └──────────────┘
            ┌──────────────┘      └──────────────┐
            ▼                                    ▼
  ┌──────────────────┐              ┌──────────────────┐
  │ User Defined     │              │ In Built         │
  │ Packages         │              │ Packages         │
  └──────────────────┘              └──────────────────┘
```

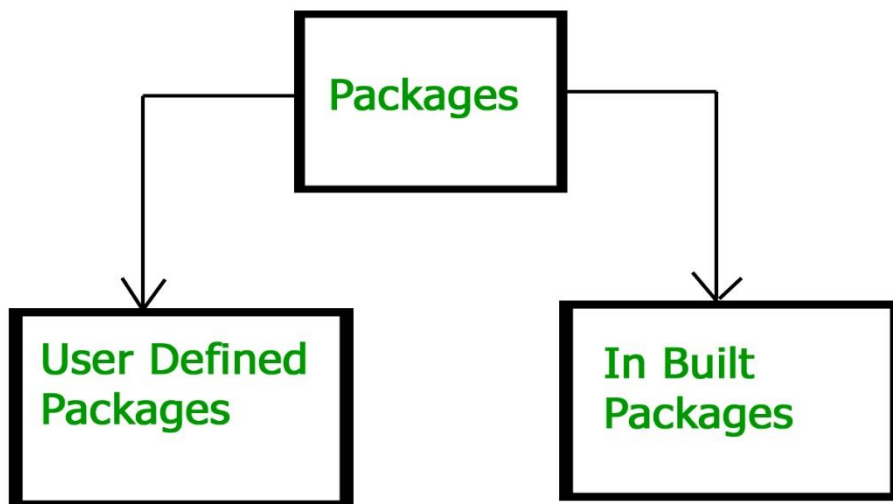**Built-in Packages**

These packages consist of a large number of classes which are a part of Java **API**. Some of the commonly used built-in packages are:

  ➢ **java.lang:** Contains language support classes(e.g classed which defines primitive data types, math operations). This package is automatically imported.

  ➢ **java.io:** Contains classed for supporting input / output operations.

  ➢ **java.util:** Contains utility classes which implement data structures like Linked List, Dictionary and support ; for Date / Time operations.

  ➢ **java.applet:** Contains classes for creating Applets.

  ➢ **java.awt:** Contain classes for implementing the components for graphical user interfaces (like button, menus etc).

  ➢ **java.net:** Contain classes for supporting networking operations.

Note: In Scanner class if we call nextLine() method after any one of the seven nextXXX() method then the nextLine() doesn't not read values from console and cursor will not come into console it will skip that step. The nextXXX() methods are nextInt(), nextFloat(), nextByte(), nextShort(), nextDouble(), nextLong(), next().

In BufferedReader class there is no such type of problem. This problem occurs only for Scanner class, due to nextXXX() methods ignore newline character and nextLine() only reads till first newline character. If we use one more call of nextLine() method between nextXXX() and nextLine(), then this problem will not occur because nextLine() will consume the newline character. This problem is same as scanf() followed by gets() in C/C++.

Difference between Scanner and BufferedReader class:

	BufferedReader class	**Scanner class**
Buffer Memory	Large buffer(8KB)	small buffer(1KB)
Functionality	Read data only	Read and parse data
Performance	Faster	Slower
DataType	read String only	read String as well as primitive data type
Introduction to jdk	Since jdk 1.1	Since jdk 1.5
CheckedException	Throws IOException	No
Package	java.io	java.util
Synchronization	Yes	No