

Lang package

String : In Java **String is type of reference data** type. Combination of one or more than one character enclosed in double quote. It is a pre defined class (non primitive or reference data types).

Syntax to create String class object

String str1 = "Welcome to java training"; literal style

String str2=new String("Welcome to Java Training"); using new keyword.

str1 or str2 we can all predefined method part of string class.

== always check value as well as memory code.

.equals() method to check only value not memory code.

String is known as immutable class. can't change the value.

StringBuffer

StringBuilder

These two classes type of string class.

StringBuffer and StringBuilder as mutable string class.

StringBuffer method are synchronized. Thread safe but slow in performance

StringBuilder methods are not synchronized. Fast but not thread safe.

Wrapper classes

Primitive data types	wrapper classes
byte	Byte
short	Short
int	Integer
long	Long
float	Float
double	Double
char	Character
boolean	Boolean

it is use to convert primitive to object and vice-versa.

Whenever we display user defined class reference using println it will display the output as

[Packagename.className@code](#)

toString is a part of Object class. by default every java program extends Object.

Internally it will call **toString()** pre defined method part of object class and that method

Return the string output.

So if want to get meaningful output . we need to override toString method.

equals and hashCode

these two method belong to object class.

String pre defined class internally extends **Object** class and override equals method

To compare to string object.

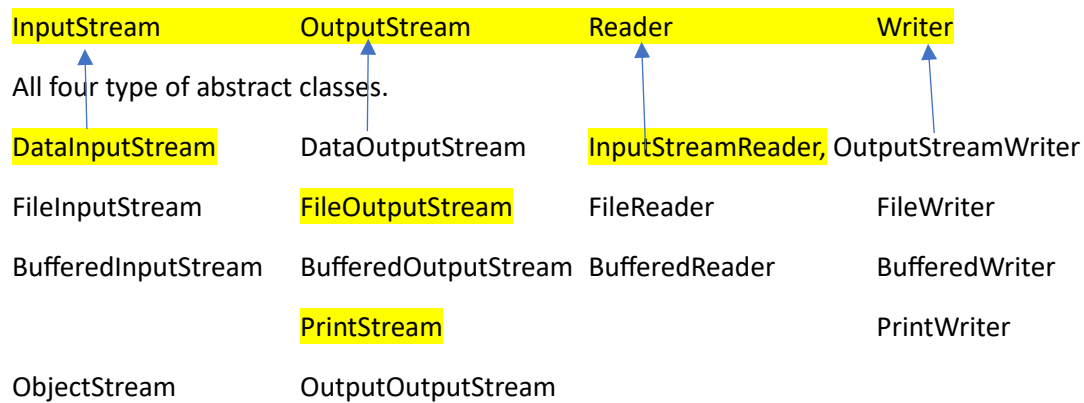
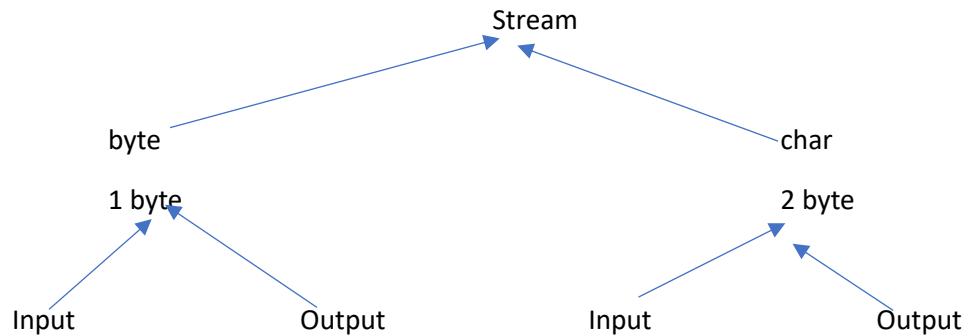
According equals method rules when two object are equal with simple or complex

Condition we need to return same hashCode.

File handling program using io package

Input and Output operation

Stream : flow of data or it is an abstraction between source and destination.



System is a pre defined class part of lang package.

Which contains 3 constants as well as static reference ie in, out, err etc

System.in InputStream class reference consider

InputStream always refer to standard input device ie keyboard.

System.out PrintStream class reference consider

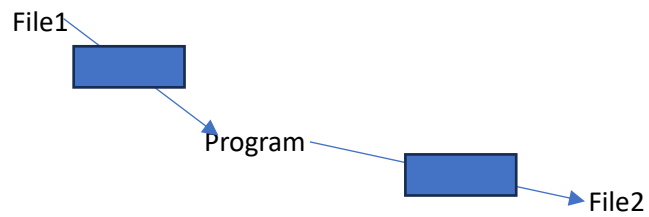
PrintStream always refer to standard output device ie console.

```
PrintSteam ps = System.out;
```

```
ps.println("Welcome to Java");
```

```
Scanner sc = new Scanner(System.in);
```

Buffer is a temporary memory.



Taking the value through keyboards

We use generally use Scanner class.

If we want to store the text data in file or read the data from file we use character classes.

FileReader and FileWriter

If we want to store **primitive data** types like int, Boolean, string, float or double

As well as **object** then we use byte wise classes.