

java.io: Overview

0) Key:

PRTYPE stands for a primitive type, e.g. int, char, ... or a *String*
ANY stands for an *Object* or a *PRTYPE*

Note: This overview is not completely complete, some details were omitted to keep it simple.

1) Parsing primitive types and strings with support for regular expressions:

Scanner extends *Object*
File / *InputStream* / *String*
find patterns, *nextPRTYPE()*

3) Manipulating File and Directory Properties:

File extends *Object*
parent, *child* / *path-string* / *URI*
create, *delete*, *list*, *rename files*, *change permissions*, ...

4) Interfaces for Input:

DataInput
readPRTYPE()

ObjectInput
readObject()

TheClassName
(arguments that the constructor accepts)
functionality typically used

ASubclass
(arguments that the constructor accepts)
functionality typically used

2) Reading from and writing to a file at any position:

RandomAccessFile extends *Object*
implements *DataInput*, *DataOutput*
path-string / *File* + *mode*
getFilePointer(), *seek()*
read and write bytes, *readPRTYPE()*, *writePRTYPE(PRTYPE)*

5) Interfaces for Output:

DataOutput
writePRTYPE(PRTYPE)

ObjectOutput
writeObject(Object)

6) Reading bytes with InputStreams:

InputStream extends Object
(abstract)
read bytes, close

FileInputStream

path-string / File / FileDescriptor
read bytes

FilterInputStream

BufferedInputStream

InputStream +opt. int size
read bytes, mark, reset

PushbackInputStream

InputStream +opt. int size
read bytes, unread

DataInputStream implements DataInput
InputStream
read bytes, readPRTYPE(), readLine()

ObjectInputStream implements ObjectInput
InputStream
readObject(Object)

PipedInputStream

empty / PipedOutputStream
connect(PipedOutputStream), readBytes

ByteArrayInputStream

byte buf[] / byte buf[], int offset, int length
read bytes

SequenceInputStream

a sequence of several InputStreams
read bytes

7) Writing bytes with OutputStreams:

OutputStream extends Object
(abstract)
flush, close, write bytes

FileOutputStream

path-string / File / FileDescriptor +opt. boolean append
write bytes

FilterOutputStream

BufferedOutputStream

OutputStream +opt. int size
write bytes

PrintStream

OutputStream +opt. boolean autoFlush
print(ANY), println(ANY)

DataOutputStream implements DataOutput
OutputStream
write bytes, writePRTYPE(PRTYPE)

ObjectOutputStream implements ObjectOutput
OutputStream
writeObject(Object)

PipedOutputStream

empty / PipedInputStream
connect(PipedInputStream), write bytes

ByteArrayOutputStream

empty / int size
write bytes, toByteArray(), writeTo(OutputStream)

8) Reading characters with Readers:

Reader extends Object
(abstract)
read chars, close

InputStreamReader

InputStream +opt. charset specifications
read chars

FileReader

path-string / File / FileDescriptor
read chars

FilterReader

PushbackReader

Reader +opt. int size
read chars, unread

BufferedReader

Reader +opt. int size
readLine()

LineNumberReader

Reader +opt. int size
get / set line number, readLine()

PipedReader

empty / PipedWriter
connect(pipedWriter), read chars

CharArrayReader

char buf[] / char buf[], int offset, int length
read chars

StringReader

String
read chars

9) Writing characters with Writers:

Writer extends Object
(abstract)
write, flush, close

OutputStreamWriter

OutputStream +opt. charset specifications
write chars

FileWriter

path-string / File / FileDescriptor +opt. boolean append
write chars

FilterWriter

BufferedWriter

Writer +opt. int size
newLine(), write chars

PrintWriter

Writer / OutputStream +opt. boolean autoFlush
print(ANY), println(ANY)

PipedWriter

empty / PipedReader
connect(PipedReader), write chars

CharArrayWriter

empty / int initialSize
write chars, toCharArray(), writeTo(Writer)

StringWriter

empty / int initialSize
write chars, toString()