9.4 Byte Stream Classes

Byte stream classes have been designed to provide functional features for creating and manipulating streams and files for reading and writing bytes.

Java provides two kinds of byte stream classes: input stream classes and output stream classes.

9.4.1 Input Stream Classes:

- Input stream classes that are used to read bytes include a super class known as Inputstream and a number of subclasses for supporting various input-related functions.
- The super class InputStream is an abstract class, and, therefore, we cannot create instances of this class.
- Rather, we must use the subclasses that inherit from this class.

Following table gives brief description of methods provided by InputStrean class.

Methods	**Description**
Abstract int read () throws IOException.	Reads a byte of data from input stream.
Int read(byte b []) throws IOException.	Reads an array of byte into b.
Int read (byte b[],int n,int m) throws IOException.	Reads m byte into b starting from n^{th} byte.
Int available() throws IOException.	Returns no. of byte that can be read without blockage. Gives no. of bytes available in the input.

Void skip(n) throws IOException.	Skip over n byte from input stream.
Void mark(int n) throws IOException.	This method used to marks current position in stream
Reset() throws IOException.	Goes back to the beginning of the stream.
Void close() throws IOException.	Closes the input stream.

The class DataInputStream extends FilterInputStream and implements the interface DataInput .
Therefore, the DataInputStream class implements the methods described in DataInput in addition to using the methods of InputStream class.
The DataInput interface contains the following methods:

- readShort()
- readInt()
- readLong()
- readFloat()
- readUTF()
- readDouble()
- readLine()
- readChar()
- readBoolean()

9.4.2 Output Stream Classes:

- Output stream classes are derived from the base class Outputstream like InputStream, the OutputStream is an abstract class and therefore we cannot instantiate it.
- The several subclasses of the OutputStream can be used for performing the output operations.
- Following table gives brief description of methods provided by OutputStrean class.

Methods	**Description**
Abstract write () throws IOException	Writes a byte to output stream.
Abstract write (byte b[])throws IOException	Writes all bytes in the array b to output stream.the no. of bytes will be equal to the length of the byte array.
Abstract write (byte b[],int n,int m) throws IOException	Writes m bytes from array b starting from nth byte. the no. of bytes will be equal to the length.
Void close()throws IOException	Closes the output stream and releases the any resources associated with the stream.
Void flush()throws IOException	Flushes the output stream. The buffered data is written to OutputStream.

The DataOutputStream , a counter part of DataInputStream , implements the interface DataOutput and therefore , implements the following methods containing in DataOutput interface.

- writeShort()
- writeInt()
- writeLong()
- writeFloat()
- writeLITE()
- writeDouble()
- writeBytes()
- writeChar()
- writeBoolean()