FileOutputStream Class

Java FileOutputStream is an output stream used for writing data to a file.

/*

If you have to write primitive values into a file, use FileOutputStream class. You can write byte-oriented as well as character-oriented data through FileOutputStream class. But, for character-oriented data, it is preferred to use FileWriter than FileOutputStream.

*/

Declaration : Java.io.FileOutputStream class

```
public class FileOutputStream extends OutputStream
```

FileOutputStream class methods

Method	Description
protected void finalize()	It is used to clean up the connection with the file output stream.
void write(byte[] ary)	It is used to write **ary.length** bytes from the byte array to the file output stream.
void write(byte[] ary, int off, int len)	It is used to write **len** bytes from the byte array starting at offset **off** to the file output stream.
void write(int b)	It is used to write the specified byte to the file output stream.
FileChannel getChannel()	It is used to return the file channel object associated with the file output stream.
FileDescriptor getFD()	It is used to return the file descriptor associated with the stream.
void close()	It is used to closes the file output stream.

OutputStream Class

It is the superclass of all the output stream classes. This class can't be instantiated; however, it is inherited by various subclasses that are given in the following table.

SN	Class	Description
1	BufferedOutputStream	This class provides methods to write the bytes to the buffer.
2	ByteArrayOutputStream	This class provides methods to write bytes to the byte array.
3	DataOutputStream	This class provides methods to write the java primitive data types.
4	FileOutputStream	This class provides methods to write bytes to a file.
5	FilterOutputStream	This class provides methods to write to other output streams.
6	ObjectOutputStream	This class provides methods to write objects.
7	PipedOutputStream	It provides methods to write bytes to a piped output stream.
8	PrintStream	It provides methods to print Java primitive data types.

The OutputStream class provides various methods to write bytes to the output streams. The methods are given in the following table.

SN	Method	Description

1	void write (int i)	This method is used to write the specified single byte to the output stream.
2	void write (byte buffer [])	It is used to write a byte array to the output stream.
3	Void write(bytes buffer[],int loc, int nBytes)	It is used to write nByte bytes to the output stream from the buffer starting at the specified location.
4	void flush ()	It is used to flush the output stream and writes the pending buffered bytes.
5	void close ()	It is used to close the output stream. However, if we try to close the already closed output stream, the IOException will be thrown by this method.

The Reader class methods are given in the following table.

SN	Method	Description
1	int read()	This method returns the integral representation of the next character present in the input. It returns -1 if the end of the input is encountered.
2	int read(char buffer[])	This method is used to read from the specified buffer. It returns the total number of characters successfully read. It returns -1 if the end of the input is encountered.
3	int read(char buffer[], int loc, int nChars)	This method is used to read the specified nChars from the buffer at the specified location. It returns the

		total number of characters successfully read.
4	void mark(int nchars)	This method is used to mark the current position in the input stream until nChars characters are read.
5	void reset()	This method is used to reset the input pointer to the previous set mark.
6	long skip(long nChars)	This method is used to skip the specified nChars characters from the input stream and returns the number of characters skipped.
7	boolean ready()	This method returns a boolean value true if the next request of input is ready. Otherwise, it returns false.
8	void close()	This method is used to close the input stream. However, if the program attempts to access the input, it generates IOException.

Writer Class

Writer class is used to write 16-bit Unicode characters to the output stream. The methods of the Writer class generate IOException. Like Reader class, Writer class is also an abstract class that cannot be instantiated; therefore, the subclasses of the Writer class are used to write the characters onto the output stream. The subclasses of the Writer class are given in the below table.

SN	Class	Description
1	BufferedWriter	This class provides methods to write characters to the buffer.
2	FileWriter	This class provides methods to write characters to the file.

3	CharArrayWriter	This class provides methods to write the characters to the character array.
4	OutpuStreamWriter	This class provides methods to convert from bytes to characters.
5	PipedWriter	This class provides methods to write the characters to the piped output stream.
6	StringWriter	This class provides methods to write the characters to the string.

To write the characters to the output stream, the Write class provides various methods given in the following table.

SN	Method	Description
1	void write()	This method is used to write the data to the output stream.
2	void write(int i)	This method is used to write a single character to the output stream.
3	Void write(char buffer[])	This method is used to write the array of characters to the output stream.
4	void write(char buffer [],int loc, int nChars)	This method is used to write the nChars characters to the character array from the specified location.
5	void close ()	This method is used to close the output stream. However, this generates the IOException if an attempt is made to write to the output stream after closing the stream.

6	void flush ()	This method is used to flush the output stream and writes the waiting buffered characters.