

Simple File Input And Output

Types of Java files

Simple file output in Java

Simple file input in Java

Storing Information On Files

Files are stored in binary form on disk

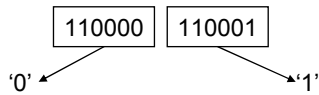
Types of files

- Text files
- Binary files

Text Files

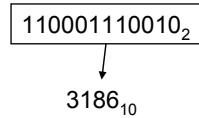
Text files

- Every 8 bits represents a character
- e.g., '0' = 48, '1' = 49

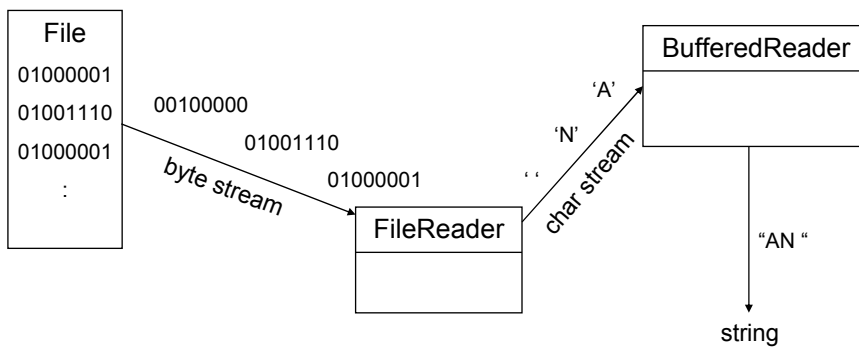


Binary files

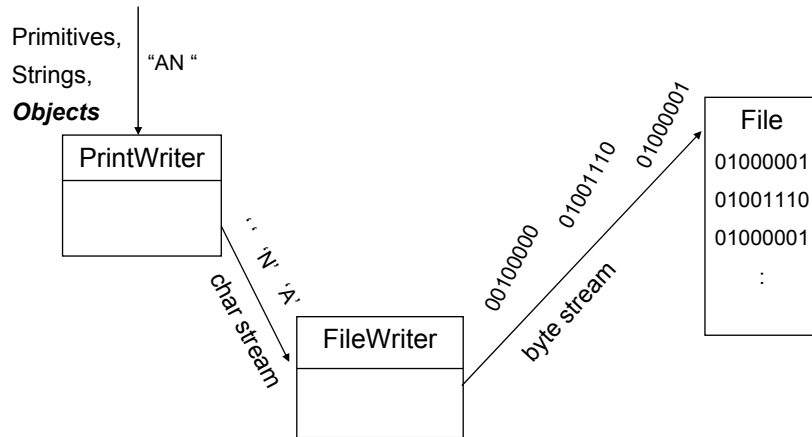
- Includes all other types of files
- e.g., interpret data as a 16 bit short



Reading Text Input From A File



Writing Text Output To A File



Simple file handling in Java

James Tam

An Example Of Simple Input And Output

The full example can be found in the directory:
</home/profs/tamj/233/examples/fileIO>

Simple file handling in Java

James Tam

Class IntegerWrapper

```
class IntegerWrapper
{
    private int num;

    public IntegerWrapper ()
    {
        num = (int) (Math.random() * 100);
    }
    public void setNum (int no)
    {
        num = no;
    }
    public int getNum ()
    {
        return num;
    }
}
```

Class SimpleIO

```
import java.io.*;

class SimpleIO
{
    public static void main (String [] argv)
    {
        IntegerWrapper iw1 = new IntegerWrapper ();
        IntegerWrapper iw2 = new IntegerWrapper ();
        String filename = "data";
        PrintWriter pw;
        FileWriter fw;
        BufferedReader br;
        FileReader fr;
    }
}
```

Class SimpleIO (2)

```
try
{
    fw = new FileWriter (filename);
    pw = new PrintWriter (fw);

    System.out.println("Written to file: " + iw1.getNum());
    pw.println(iw1.getNum());
    System.out.println("Written to file: " + iw2.getNum());
    pw.println(iw2.getNum());
    pw.close();
}
```

Class SimpleIO (3)

```
fr = new FileReader(filename);
br = new BufferedReader(fr);
System.out.println("Read from file: " + br.readLine());
System.out.println("Read from file: " + br.readLine());
}
```

Class SimpleIO (4)

```
catch (IOException e)
{
    System.out.println("File IO error: Exception thrown");
    e.printStackTrace();
}
}
```

Summary

Writing text information to files with Java classes

- FileWriter
- PrintWriter

Reading text information to files with Java classes

- FileReader
- BufferedReader