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Scanner

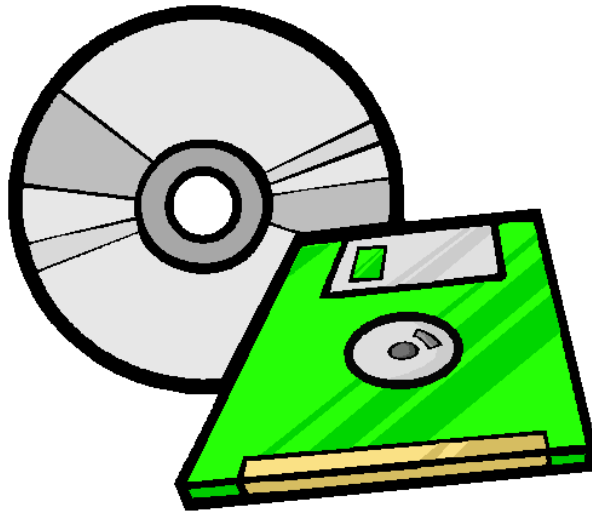
```
Scanner kb = new Scanner(System.in);
```

```
int val = kb.nextInt();
```

kb connects to the keyboard

Data Files

A data file is a sequential list of data.



nums.dat

123

567

345

128

The Program



Output file stream



Input file stream



The program sends data to the file.

Java Program

The program gets data from the file.

The program is always in control when working with files.

Scanner

Scanner file =

```
new Scanner(new File("nums2.dat"));
```

```
int val = file.nextInt();
```

file connects to nums2.dat

file →

nums2.dat

567

345

25

Scanner

Scanner is a class in Java that can be used to read in data from the keyboard or from a data file.

Scanner can also be used to chop up Strings.



Scanner

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

```
Scanner chopper = new Scanner("a b c d e");
```

```
Scanner file =  
    new Scanner(new File("pr21.dat"));
```

Scanner

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



object / reference

constructor

parameter



```
Scanner file
```

```
= new Scanner(new File("prxx.dat"));
```

Scanner Methods

Scanner

frequently used methods

Name	Use
<code>nextInt()</code>	returns the next int value
<code>nextDouble()</code>	returns the next double value
<code>next()</code>	returns the next one word String
<code>nextLine()</code>	returns the next multi word String
<code>hasNextInt()</code>	checks to see if there are more ints
<code>hasNextDouble()</code>	checks to see if there are more doubles
<code>hasNext()</code>	checks to see if there are more Strings

```
import java.util.Scanner;
```

Reading From Files

File Input

for.dat

6

23

11

6634

123

532

123

of data sets (6)



File Input

Scanner file =

```
new Scanner(new File("for.dat"));
```

```
int cnt = file.nextInt();
```

```
for(int i=0; i<cnt; i++)
```

```
{
```

```
int num = file.nextInt();
```

```
out.println(num);
```

```
}
```

File Input

```
Scanner file =  
    new Scanner(new File("for.dat"));  
  
int cnt = file.nextInt();  
for(int i=0; i<cnt; i++)  
{  
    int num = file.nextInt();  
    out.println(num);  
}
```

for.dat

3
11
5
67

OUTPUT

11
5
67

filefor.java

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File Input

while.dat

```
34
23
11
6634
123
532
123
531
```

of data sets (?)



File Input

```
Scanner file =  
    new Scanner(new File("while.dat"));  
  
while(file.hasNextInt())  
{  
    int num = file.nextInt();  
    out.println(num);  
}
```

File Input

```
Scanner file =  
    new Scanner(new File("while.dat"));
```

```
while(file.hasNextInt())  
{  
    int num = file.nextInt();  
    out.println(num);  
}
```

while.dat

11

5

67

OUTPUT

11

5

67

filewhile.java

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File Input

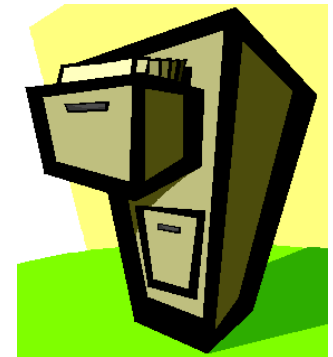
forlines.dat

3



of data sets (3)

**I went to the store.
The big dog ran.
How are you doing?**



File Input

```
Scanner file;  
file = new Scanner(new File("forlines.dat"));  
int cnt = file.nextInt();  
file.nextLine(); //clear out whitespace  
for(int i=0; i<cnt; i++)  
{  
    String sentence = file.nextLine();  
    out.println(sentence);  
}
```

fileforlines.java

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File Input

whilelines.dat

**I went to the store.
The big dog ran.
How are you doing?**

of data sets (?)

File Input

```
Scanner file;  
file = new Scanner( new File("whilelines.dat"));  
while(file.hasNext())  
{  
    out.println(file.nextLine());  
}
```

filewhilelines.java

filewhilechop.java

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Writing Files

Writing Files

```
PrintWriter fileOut =  
    new PrintWriter(  
        new FileWriter("out.dat"));
```

Writing Files

```
PrintWriter fileOut =  
    new PrintWriter(  
        new FileWriter("out.dat"));
```

```
for(int i=0; i<10; i++)  
{  
    fileOut.println(i);  
}  
fileOut.close();
```

fileout.java

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SOME CODE!**

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