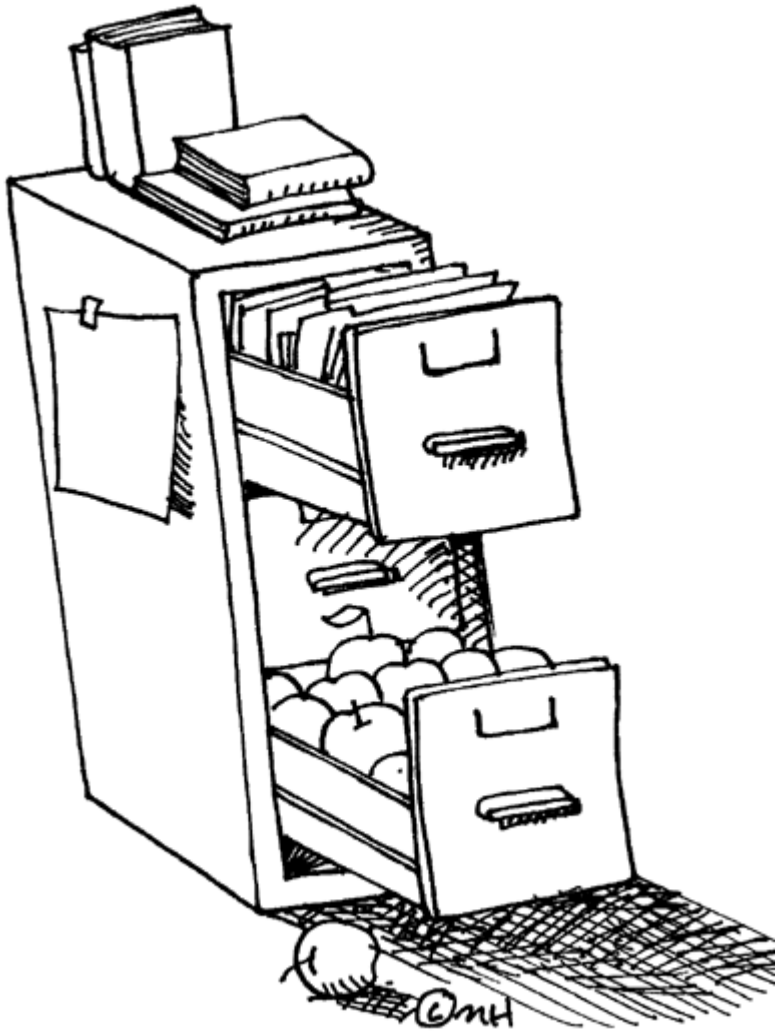
Input from Files

Buffered Reader



- Input from files is always text.
- You can convert it to ints using Integer.parseInt()

- We use BufferedReaders to minimize the number of reads to the file.
- The Buffer reads a whole chunk of information from the file and hands it to us one piece at a time.
- That way, each read operation is faster.

This is a file.
It has text in it.
The text can be read.
Line by line.
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.

How does a File Reader work?

```
in.readLine();
```

~~This is a file.~~
It has text in it.
The text can be read.
Line by line.
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.

This is a file.

```
in.readLine();
```

~~This is a file.~~
~~It has text in it.~~
The text can be read.
Line by line.
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.

It has text in it.

```
in.readLine();
```

~~This is a file.~~
~~It has text in it.~~
~~The text can be read.~~
Line by line.
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.

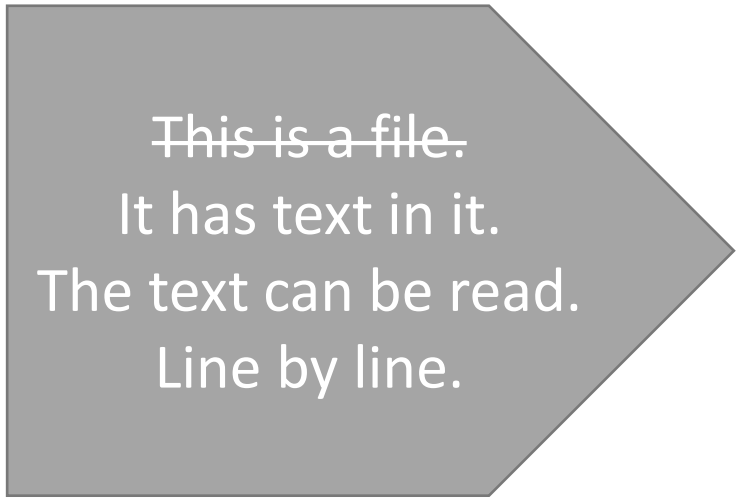
The text can be read.

This is a file.
It has text in it.
The text can be read.
Line by line.
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.

How does a BufferedReader work?

```
in.readLine();
```

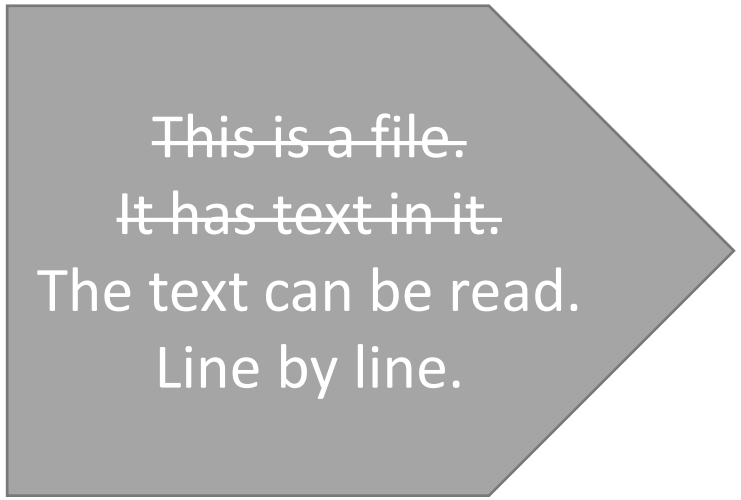
~~This is a file.~~
~~It has text in it.~~
~~The text can be read.~~
~~Line by line.~~
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.



This is a file.

```
in.readLine();
```

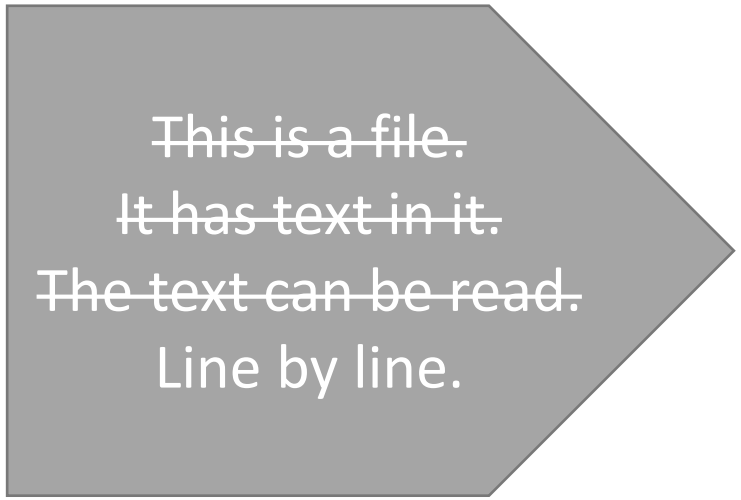
~~This is a file.~~
~~It has text in it.~~
~~The text can be read.~~
~~Line by line.~~
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.



It has text in it.

```
in.readLine();
```

~~This is a file.~~
~~It has text in it.~~
~~The text can be read.~~
~~Line by line.~~
The program can …
… use the data.
Like open a saved file.
Maybe a high scores list.
Or some user settings.



The text can be read.

The File Pieces

```
import java.io.*;
public class readIn {
  public static void main (String args[]) {
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

Import the right library

```
import java.io.*;
public class readIn {
  public static void main (String args[]) {
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

```
import java.io.*;
public class readIn {
  public static void main (St
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

Import the right library

Open a Buffered Reader.
Sort of a 'scanner' for files.

```
import java.io.*;
public class readIn {
  public static void main (St
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

Import the right library

Open a Buffered Reader.
Sort of a ‘scanner’ for files.

Send in the file name.

```
import java.io.*;
public class readIn {
  public static void main (St
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

Import the right library

Open a Buffered Reader.
Sort of a ‘scanner’ for files.

Send in the file name.

Read in a single line.

```
import java.io.*;
public class readIn {
  public static void main (St
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

Import the right library

Open a Buffered Reader.
Sort of a ‘scanner’ for files.

Send in the file name.

Read in a single line.

Close the file.

The Try/Catch

```
import java.io.*;
public class readIn {
  public static void main (String args[]) {
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
       in = new BufferedReader (new FileReader ("numbers.txt"));
       String next = in.readLine ();
       in.close ();
       System.out.println (total);
     }
     catch (IOException e) {
        System.out.println ("Error opening file " + e);
     }
   }
}
```

Open the try.

Close the catch.

```
import java.io.*;
public class readIn {
  public static void main (String args[]) {
     new readIn ();
  }
  public readIn () {
     BufferedReader in;
     try {
        in = new BufferedReader (new FileReader ("numbers.txt"));
        int total = 0;
        String next = in.readLine ();
        while (next != null) {
              total += Integer.parseInt (next);
              next = in.readLine ();
        }
        System.out.println (total);
     }
     catch (IOException e) {
         System.out.println ("Error opening file " + e);
     }
   }
}
```

Looping until done.

Converting a line to an integer