

# Easy File I/O

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**File processing in C++ is fairly straightforward:**

1. **Declare a stream variable to refer to the file.** Here's an example with both an input file stream and an output file stream.

```
1 | ifstream infile;  
2 | ofstream outfile;
```

2. **Open the file.** To **establish an association** between that variable and an actual physical file on disk you need to **open the file** calling **open()**.

```
infile.open("myfile.txt");
```

Alternatively, you can use perform **both steps at once** using the **stream constructors**. Here's an example:

```
ifstream infile("myfile.txt");
```

If the **file is missing** the stream will **fail to open**; you can check for that by calling the member function **fail()**. There will be **no other error messages**:

```
1 | ifstream infile("myfile.txt");  
2 | if (infile.fail()) { /* handle error */ }
```

3. **Transfer the data.** Read and write data using these techniques:
  - Read or write character by character using **unformatted I/O**.
  - Process the file **line by line**, using **line-oriented I/O**.
  - Read and write **formatted data**, mixing numeric data with strings and other data types. This is known as **token-based file I/O**.



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