

C++ Files

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The fstream library allows us to work with files.

To use the fstream library, include both the standard `<iostream>` **AND** the `<fstream>` header file:

Example

```
#include <iostream>
#include <fstream>
```

There are three classes included in the fstream library, which are used to create, write or read files:

Class	Description
ofstream	Creates and writes to files
ifstream	Reads from files
fstream	A combination of ofstream and ifstream: creates, reads, and writes to files

Create and Write To a File

To create a file, use either the ofstream or fstream class, and specify the name of the file.

To write to the file, use the insertion operator (<<).

Example

```
#include <iostream>
#include <fstream>
using namespace std;
```

```
int main() {
    // Create and open a text file
    ofstream MyFile("filename.txt");

    // Write to the file
    MyFile << "Files can be tricky, but it is fun enough!";

    // Close the file
```

```
MyFile.close();  
}
```

Why do we close the file?

It is considered good practice, and it can clean up unnecessary memory space.

Read a File

To read from a file, use either the `ifstream` or `fstream` class, and the name of the file.

Note that we also use a `while` loop together with the `getline()` function (which belongs to the `ifstream` class) to read the file line by line, and to print the content of the file:

Example

```
// Create a text string, which is used to output the text file  
string myText;  
  
// Read from the text file  
ifstream MyReadFile("filename.txt");  
  
// Use a while loop together with the getline() function to read the file line by  
// line  
while (getline (MyReadFile, myText)) {  
    // Output the text from the file  
    cout << myText;  
}  
  
// Close the file  
MyReadFile.close();
```