

# CS 162

## Intro to CS II

File I/O

# First Revisit Redirection...

>> append  
> overwrite  
< input

take a look at .get ( *↪ you can provide a delim ' | '* )

# C++ Open a file in your program

- Include File Stream

```
#include <fstream>
```

- Create File Object

```
std::ifstream input;
```

- Open the file

```
input.open("file.txt");
```

- Example:

```
int num;
```

```
std::ifstream input;
```

```
input.open("file.txt");
```

```
input >> num;
```

```
cin >> num
```

*input*

*put variable*

*input*

*read from file.txt*

*read from Key board*

# C++ Open file for Writing/Appending

- Include File Stream

```
#include <fstream>
```

- Create File Object

```
std::ofstream output;
```

- Open the file

```
output.open("file.txt"); //overwrite file
```

```
output.open("file.txt", ios::app); //append to file
```

- Example:

```
① std::ofstream output;
```

```
② output.open("file.txt");
```

```
③ output << "Hello World" << endl;
```

*output*

*std namespace*

*std*

# C++ Close the file

- `input.close();`
- `output.close();`

# C++ Check for Successful File I/O

```
if (input.fail())  
    cout << "The file failed to open!" << endl;  
else  
    input >> num;
```

*try to read from file that doesn't exist*

# Reading until EOF

```
while (!input.eof()) {  
    input >> num;  
    cout << num << endl;  
}
```

- Read a character  
input.get(var);
- Read a line of text  
input.getline(var);

# Demo...

```
access.engr.orst.edu - PuTTY

1 #include "./mystring.h"
2 #include <iostream>
3 #include <fstream>
4
5 using std::cout;
6 using std::endl;
7 using std::fstream;
8 using std::ios;
9
10 int main() {
11     string s, s2("hello");
12
13     fstream iofile;
14     iofile.open("hello", ios::in|ios::out|ios::app);
15
16     iofile << "hi there!" << endl;
17     iofile.close();
18
19     cout << s.length() << endl;
20     cout << s2.length() << endl;
21     cout << s.at(0) << endl;
22     cout << s2.at(1) << endl;
23
24 }
```

*we can open for reading and writing*

*} in std namespace*

*since we are using fstream, we have to specify if we want to read, write or both.*

*this is so you do n't over write file each time*

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