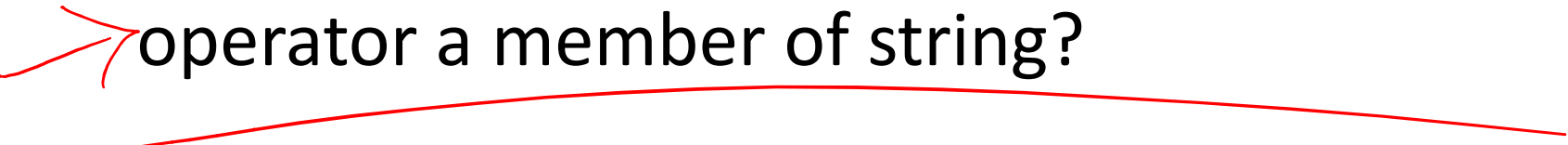



CS 162

Intro to CS II

Practice Classes and File I/O

Revisit Classes

- How can we make the “equal to” relational operator a member of string?
- 

- What is the “has a” relationship?
 - How can we make a paragraph class that has strings?
- 

operator ==

binary
Demo

1st argument

non-member

① friend

② not friend

direct access
to private members

needs accessor
functions

str == str2

2nd argument

2 parameters

calling object
member

argument

str == str2

1 parameter

str.operator==(str2)


Member function == operator overload

```
access.engr.orst.edu - PuTTY
1 #ifndef MYSTRING_H
2 #define MYSTRING_H
3 class string{
4     private:
5         int len;
6         char *s;
7     public:
8         string(); //default should set s to NULL and len is zero
9         string(const char *); //set to specific string and change len
10
11         //Big Three
12         string(const string &); //copy constructor
13         ~string(); //destructor
14         void operator=(const string &); //assignment operator overload
15
16         bool operator==(const string &); //member function equal to
17         void set_s(const char *);
18         int length() const;
19         char at(int) const;
20         char * get_s() const;
21 };
22
23 #endif
~
"mystring.h" 23L, 600C written 16,65 All
```

Member function == operator overload

```
access.engr.orst.edu - PuTTY
26 void string::operator=(const string &str){
27     if(s!=NULL) delete [] s;
28     len=str.length();
29     if(len==0) s=NULL;
30     else {
31         s=new char[len];
32         for(int i=0; i<len; i++)
33             s[i]=str.at(i);
34     }
35 }
36 string::~~string(){
37     delete [] s;
38     s=NULL;
39 }
40 bool string::operator==(const string &s){
41     if(len==s.len){
42         for(int i=0; i<len; i++)
43             if(this->s[i]!=s.s[i])
44                 return false;
45         return true;
46     }
47     else
48         return false;
49 }
"mystring.cpp" 72L, 1377C written 40,1 52%
```

File I/O

- How are we going to read the specific information from a file, e.g. a movie title?
 - How many times will we pass through the data to rent a movie?
- 

```
1 #include <fstream>
2 #include <iostream>
3 #include <string.h>
4
5 using std::fstream;
6 using std::ios;
7 using std::endl;
8 using std::cout;
9
10 int main(){
11     char c[256];
12     fstream iofile;
13     iofile.open("hello.txt",ios::in);
14     for(int j=0; j<2; j++){ //go through the two movies
15         for(int i=0; i<1; i++){ //title is one data field over
16             iofile.get(c,256,'|');
17             iofile.get(c,2);
18         }
19         iofile.get(c,256,'|'); //get title info
20         cout << c << endl;
21         if(!strcmp(c,"hello"))
22             cout << "We have title" << endl;
23         iofile.getline(c,256); //get rest of line from pipe over
24     }
25     iofile.close(); //close file when done
26
27     return 0;
28 }
```