

FILES

Problem Solving with Computers-I

C++

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

int main()
cout<<"Hola Facebook!";
return 0;
}
```

GitHub



I/O in programs

Different ways of reading data into programs

- cin
- Command line arguments (int main(int argc, char* argv[])
- Read from file

Ways to report results

- Std output: cout
- Std error: cerr
- Write to file

Where are files stored?

- A. In main memory
- B. In secondary memory
- C. On the processor
- D. In C++ programs
- E. None of the above

Reading from files

- Open a file
- If open fails, exit
- In a loop
 - Read a line and process it
 - If you reach the end of file, break
- Close the file

Reading from files

```
#include <fstream>
ifstream ifs; // Create a ifstream object
ifs.open("numbers.txt"); //Open a file to read
if(!ifs){ // open failed}
getline(ifs, line); // read a line from the file into a
                    // string line.
                    // If you attempt to read past the end
                    // of file, ifs change to fals

if(!ifs){ // read past the end of file} //Only check this
after a read from the file
ifs.close()
```

Writing to files

```
#include <fstream>
ofstream ofs; // Create a ofstream object
ofs.open("animals.txt"); //Open a file to write to
ofs<<"Duck\n"<<"Cat\n"<<"Cow\n";
```

FILE IO: Which of the following is correct?

A.

```
while (1) {  
    getline(ifs, line);  
    if (!ifs)  
        break;  
    cout<<line<<endl;  
}
```

B.

```
while (ifs) {  
    getline(ifs, line);  
    cout<<line<<endl;  
}
```

C. Both A and B are correct

D. Neither is correct

Next time

- Makefiles and data representation