#### **CSC112** Spring 2011 **Fundamentals of Computer Science Summary of Binary Files**

# **Binary Files**

Binary files can be thought of as a region of (contiguous) memory that is written to (or read from) disk without any kind of conversion. A sequence of bits (bytes) in memory are unchanged in a corresponding file on disk.

# Writing Binary Files

Files are written in C++ using an object of class ofstream. There are several member functions (methods) in this class. The most useful ones are listed below:

- open Open a file before writing it.
- write Write to the file.
- close Close the file when done writing.
- fail Check for failure after opening.

To use these functions, we must declare an object of type ofstream. For example:

ofstream ufile ;

Using the open() function:



Using the write() function:

ufile.write( xxxx, yyyyy) ; 

Address of data to be written Address is coerced to a (char \*)

Number of bytes of data to write

### Using the close() function:

Easy! There are no parameters. Example: ufile.close()

### Using the fail() function:

Also easy! There are no parameters. Example: ufile.fail()

## **Reading Binary Files**

Files are read in C++ using an object of class **ifstream**. There are several member functions (methods) in this class. The most useful ones are listed below:

- open Open a file before reading it.
- **read** Read from the file.
- close Close the file when done reading.
- fail Check for failure after opening.
- **eof** Check for end of file after reading.

To use these functions, we must declare an object of type ifstream. For example:

ifstream ifile ;

Using the open() function: Similar to open for writing.



Using the read() function:

ifile.read( xxxx , yyyyy ) ;

Address of data to be read

Address is coerced to a (char \*)

Number of bytes of data to read

Using the close() function:

Easy! There are no parameters. Example: ifile.close()

Using the fail() function:

Also easy! There are no parameters. Example: ifile.fail()

#### Using the eof() function:

Still easy! There are no parameters. Example: ifile.eof()