

Files and Streams

Streams

- **Streams:** A stream is a flow of characters.
- **An input stream:** is a flow of characters into the program.
- **An output stream :** is a flow of characters out of the program.
- **cin** is a predefined input stream (defined in `<iostream>`).
- **cout** is a predefined output stream (defined in `<iostream>`).

- **Streams** are defined in the streams library header file, `<iostream>` and implemented in the `iostream` library.
- What if you want **characters** to **come** from **a file**?
- #You need an *input file stream*.
- •What if you want your output **characters** to go **into** a **file**?
- #You need an *output file stream*.
- •Both are called *file streams*.

- **File streams** are a special kind of **I/O stream**. C++ defines file streams in a library called **fstream**, whose header file is **<fstream>**.

"end of file"

- How can tell when there are no more characters left to read from the input file associated with a particular file stream?
- You need to detect the "end of file" condition.

- the standard **input** stream "**cin**" is connected to the **keyboard** and the standard **output** stream "**cout**" is connected to the screen.