

Use < to Read **stdin** from a File

What about files?

To replace **stdin** with a file,
use the < operator.

For example,

- `./line_sort < list_of_words`
- reads **stdin** for `line_sort`
- from the file `list_of_words`.

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Use > or >> to Write **stdout** to a File

One can also **send stdout to a file with >**.

For example,

- `ls */grade.txt > grade_files`
- writes the list of `grade.txt` files in subdirectories into the file `grade_files`.

Files can be overwritten with >.

- If, instead, you want **to append stdout to a** (possibly existing) **file, use >>**.

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Including **stdout** with Operators | & and >&

Operators |, >, and >> do not redirect **stderr**.

If you want **to include stderr** (by merging it with **stdout**), **use |& or >&** instead:

- `program1 |& program2`
- `program1 >& output`

Appending is more complex:

- `program1 >> output 2>&1`
- **stdout** appended to **output**, **stderr** (2) duplicated from **stdout** (1).

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