Input/Output redirection

What will you learn:

- ❑ Different types of I/O Types
- ❑ I/O Redirection

Types of I/O

Name	Abbreviation	File descriptor
Standard Input	stdin	0
Standard Output	stdout	1
Standard Error	stderr	2

>	Redirects Standard output to a file. Overwrites existing contents.
>>	Redirects standard output to a file. Appends to any existing contents in the file
<	Redirects input from a file to a command

&	signals to file descriptor is being used
2> file	Redirect stderr to a file
2>&1	combine stderr and stdout

Pipe

“ | “ -> to send the output of one program to another program for further processing

$cat testfile | less

$head -> display the head of a file. By default 10 lines

example: $head test.txt

Options:

-'n' -> where 'n' is number of lines

example: $head -4 test.txt -> display first 4 lines of test.txt

$tail -> display the tail of a file . By default 10 lines

example: $tail test.txt

Options:

-'n' -> where 'n' is number of lines

example: $tail -4 test.txt -> display last 4 lines of test.txt

-f -> hang on file after displaying the lines

example: $tail -f test.txt -> display last 10 lines and hangs on file.

Summary:

stdin - 0
stdout - 1
stderr - 2

< - Redirects input from a file to a command
$cat < test.txt - redirects stdin from a file

> - Redirects Standard output to a file with file descriptor 1. Overwrites existing contents
- Redirects Standard error to a file with file descriptor 2. Overwrites existing contents

$ cat test.txt > output.txt - redirects stdout to a file
$ cat test.txt 1> output.txt - redirects stdout to a file
$ cat test.txt 2> output.txt - Redirects Stderr to a file

>> - Redirects Stdout to a file with file descriptor 1 . Appends to file
- Redirects Stderr to a file with file descriptor 2 . Appends to file

$ cat test.txt >> output.txt - redirects and append stdout to a file
$ cat test.txt 1>> output.txt - redirects and append stdout to a file
$ cat no_exist_file 2>> output.txt - append Stderr to a file (no_exist_file doesn't exist)

& - signals to file descriptor is being used

$ cat test.txt no_exist_file > both.txt 2&1 - Redirects stdout and stderr to the same file

$ cat test.txt no_exist_file > both.txt 2&1 - appends stdout and stderr to the same file

Pipe

“ | “ -> to send the output of one program to another program for further processing

$cat testfile | less