

Computer Programming 1 Lab

2020-12-31

Outline

- Command line argument
- Stream
- Redirect
- Pipe
- File

Command line argument

- Pass argument to main function from command line
- `args` : the number of command line argument
- `argv` : an array of strings in which the actual command-line arguments are stored.

```
./a.out data1.in data2.in data3.in  
->  
args: 4  
argv[0] = ./a.out  
argv[1] = data1.in  
argv[2] = data2.in  
argv[3] = data3.in
```

Stream

A “source” or “sink” of data.

Common streams:

- FILE I/O
- Socket
- STDIN/STDOUT/STDERR

```
FILE* file_1 = fopen(.....);  
FILE* file_2 = fopen(.....);  
  
fgets(str, sizeof(str), stdin);  
fgets(str, sizeof(str), file_1);  
  
fputs(str, stdout);  
fputs(str, file_2);  
  
fprintf(stdout, .....);  
fprintf(stderr, .....);
```

Redirect

```
myprogram > output.txt  
myprogram 2> err.txt  
myprogram > output.txt 2> err.txt
```

Pipeline

- |
- Simply, '|'
- Connecting multiple program procedures' stdout and stdin like a waterfall, like ONE stream.

- Program_A:
Prints 1 ~ 10 ascendingly
- Program_B:
Reads a number and multiply it by 2

Then prints the result

```
Program_A | Program_B
```

Any Question?