

PA #0: Warming up C Programming

SCE212 (Computer Architecture)
Spring 2023

TA: Jinwoo Jeong (정진우)
Email: jjw8967@ajou.ac.kr

Introduction

- Project #0

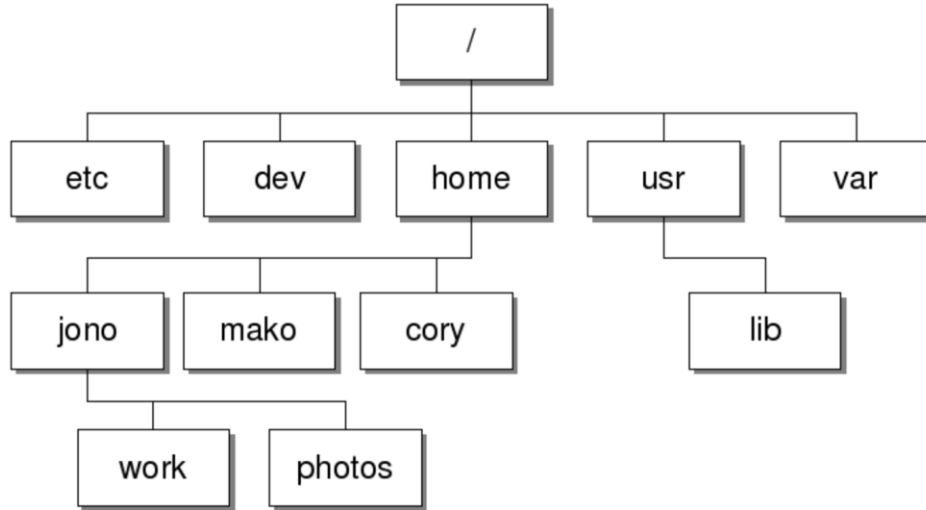
- Take files and directories as input
- Build a tree hierarchy structure composing files and the directories
- After building hierarchy structure is completed, the program prints the names of files in the specific directory.

- Goal

- Understanding C Programming
 - String Parsing
 - Pointer
 - Structure
- To be familiar with Linux environment

Background

- Linux manages files and directories as tree structures as below:



Implementation

- Problem #1: `parse_str_to_list()` in `utils.c`
 - This function parses a string with '/', and then returns the tokens in list format
 - ex) `/home/ubuntu/text.txt =>`

home	ubuntu	text.txt
------	--------	----------
- Problem #2: `make_dir_and_file()` in `dir_file.c`
 - This function has *token_list* parameter. The function makes a hierarchy structure that composes of the files and directories as a tree structure.

Problem #1: parse_str_to_list()

- You simply implement this function using *strtok()* library

char* str / h o m e / u b u n t u / t e x t . t x t

strtok(str, "/") -> "home"



char* str / h o m e \0 u b u n t u / t e x t . t x t

strtok(NULL, "/") -> "ubuntu"



char* str / h o m e \0 u b u n t u \0 t e x t . t x t

strtok(NULL, "/") -> "text.txt"



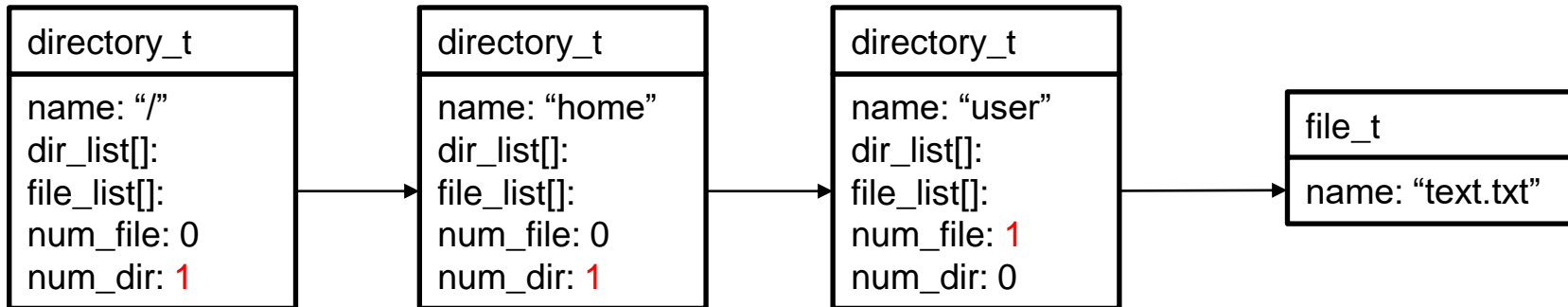
char* str / h o m e \0 u b u n t u \0 t e x t . t x t

strtok(str, "/") -> NULL

Problem #2: make_dir_and_file()

파일 경로

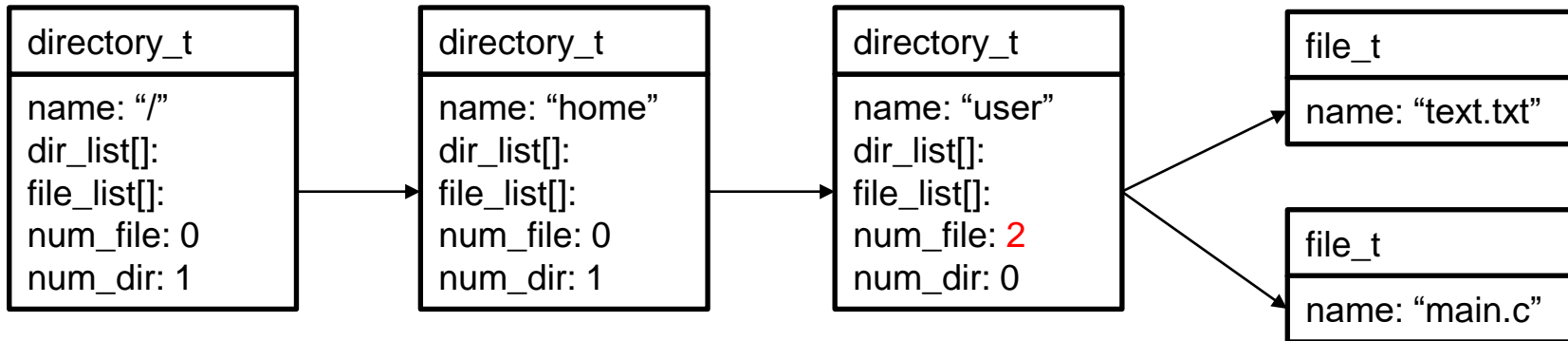
```
/home/user/text.txt  
/home/user/main.c  
/home/user/main  
/home/host_list
```



Problem #2: make_dir_and_file()

파일 경로

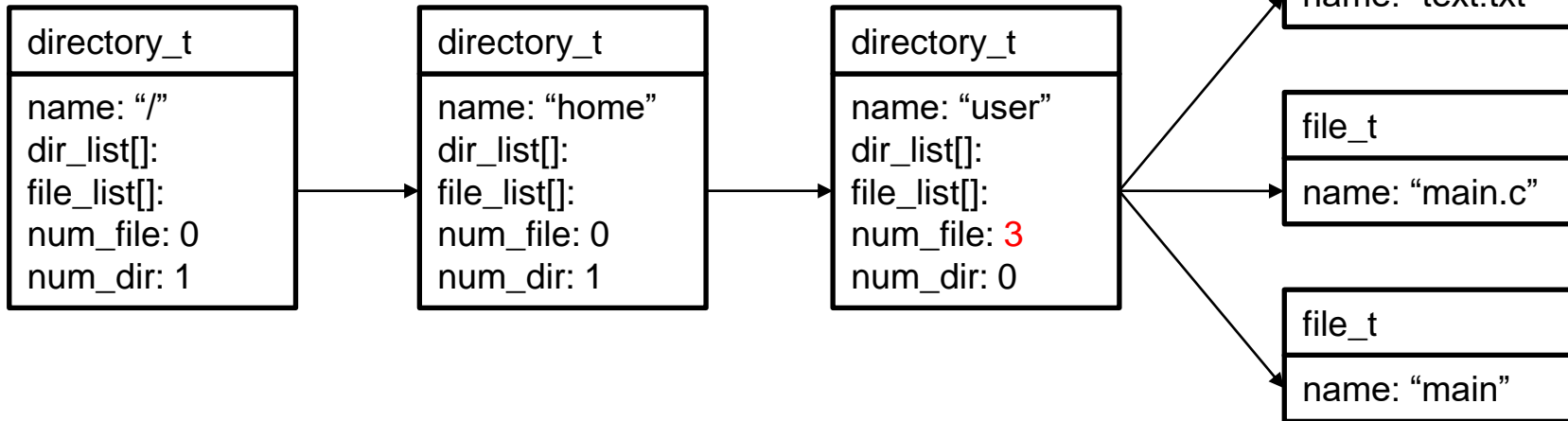
```
/home/user/text.txt  
/home/user/main.c  
/home/user/main  
/home/host_list
```



Problem #2: make_dir_and_file()

파일 경로

```
/home/user/text.txt  
/home/user/main.c  
/home/user/main  
/home/host_list
```



Problem #2: make_dir_and_file()

파일 경로

```
/home/user/text.txt  
/home/user/main.c  
/home/user/main  
/home/host_list
```

