Vmware & Ubuntu Installation

KECE456 Code and System Optimization (Fall 2023)

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Vmware & Ubuntu image Download

- **Vmware & Ubuntu image Download Link**
  - https://drive.google.com/file/d/13-_fobeBQt_NRHTHt9Ghe_il7Qd1V8QR/view?usp=sharing
  - https://drive.google.com/file/d/10zwfyLByD-YWm4K-4m-cwrrpPfIA-_te/view?usp=sharing
- **Contents**
  - "Vmware-player-16.1.2-17966106.exe" – VMware 설치 프로그램.
    - 가상 머신을 Host computer에 얹어서 리눅스 OS(Ubuntu)를 실행하기 위함
  - "Ubuntu_64-bit.zip" – Pre-configured Ubuntu image 압축파일
    - 즉, project 수행을 위해 사전에 구성된 Ubuntu OS
- **환경 설정**
  - VMware 프로그램 설치
  - Ubuntu image로 Linux 환경 구축

VMware Installation (1/4) - Introduction

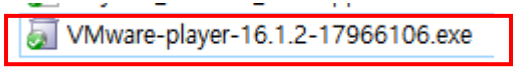
– 다운로드 된 “VMware-player-16.1.2-17966106.exe” 파일을 실행하여 VMware를 설치한다.

  - 사용자 환경이 x86_64가 아닌 경우, 아래의 링크에 접속하여 각자 환경에 맞는 VMware 설치파일을 다운로드 해야한다.
  - https://www.vmware.com/kr/products/workstation-player/workstation-player-evaluation.html

– 설치 과정은 다음 슬라이드를 참고 할 것

– 슬라이드에 포함되지 않은 기타 사항은 아래의 링크를 참고

  - https://jhnyang.tistory.com/233 (Virtual Machine과 VMware에 대한 설명)



[Fig 1. VMware 설치 파일]

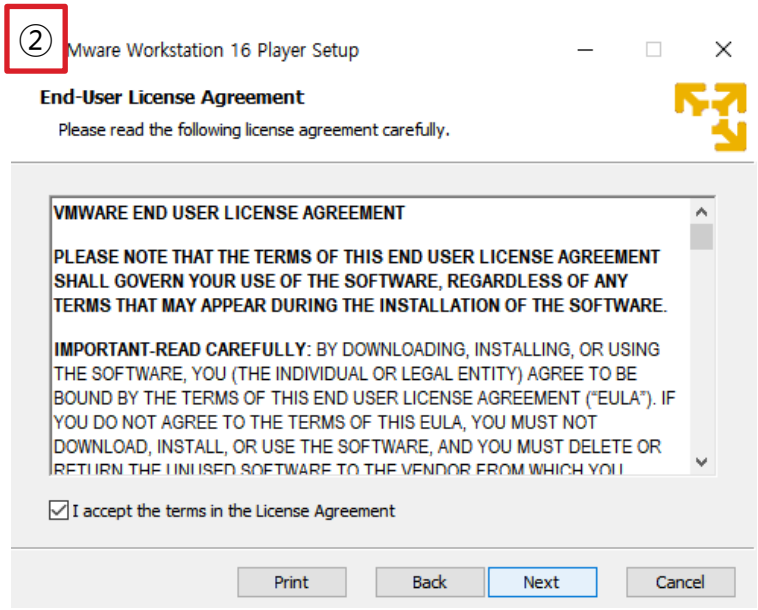
VMware Installation (2/4)

- 설치 프로그램을 실행한 이후의 단계는 다음과 같다.

① “Next”를 선택하여 다음단계로 넘어간다.

② “Accept” 체크박스를 선택하고 다음단계로 넘어간다.

[Fig 2. VMware installation ①]

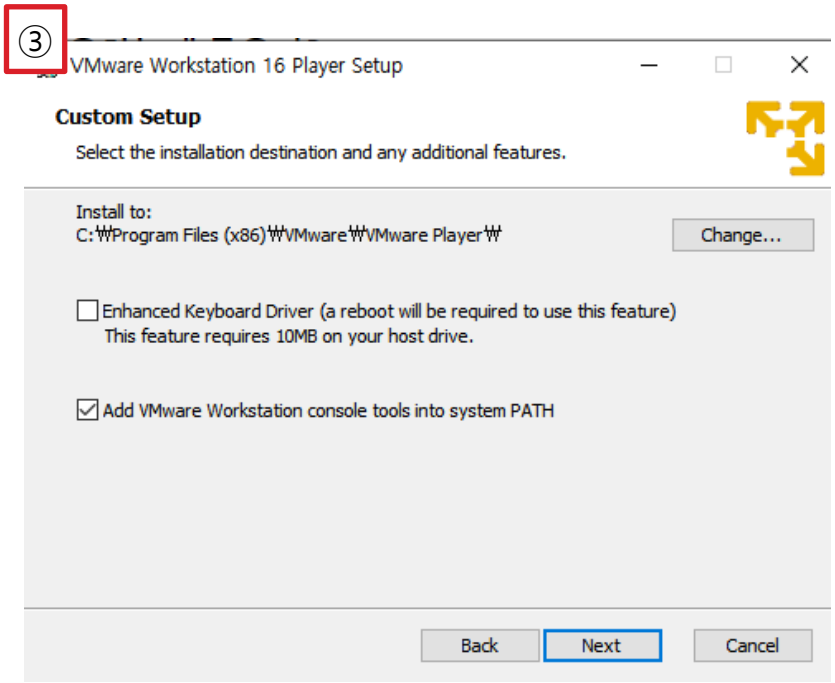


[Fig 3. VMware installation ②]

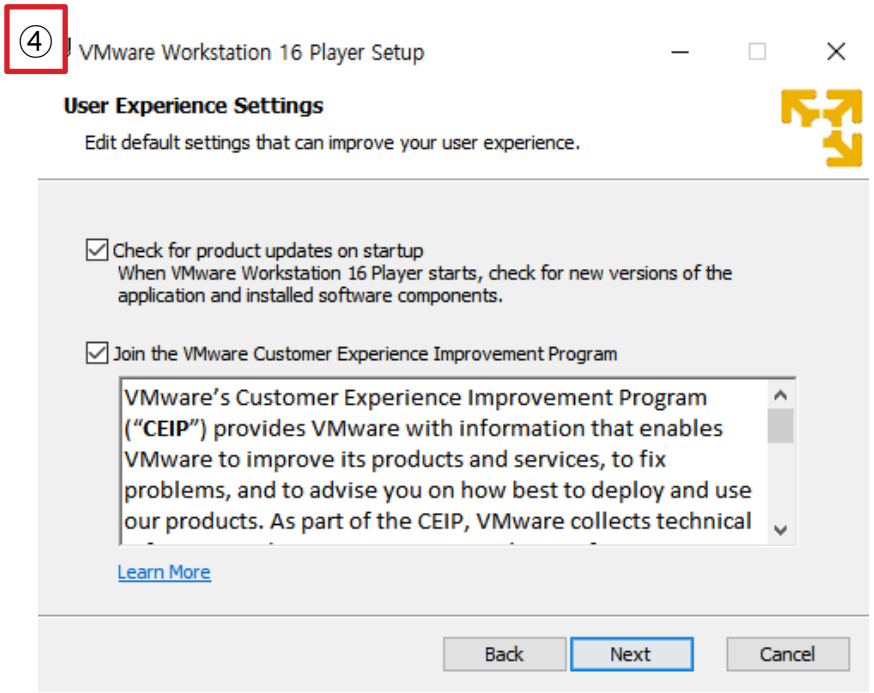
VMware Installation (3/4)

③ VMware의 설치 경로를 설정한다. (Default path로 설정해도 무방함)

④ Experience setting도 default configuration으로 진행해도 무방함.



[Fig 4. VMware installation ③]



[Fig 5. VMware installation ④]

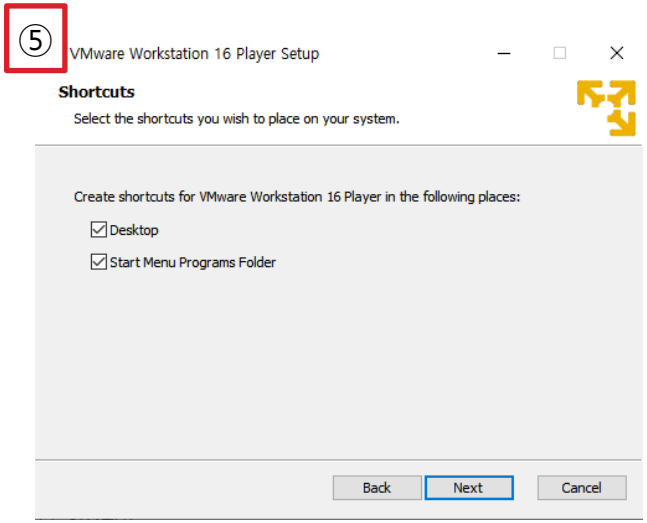
VMware Installation (4/4)

⑤ “Shortcuts” 관련 옵션을 설정한다.

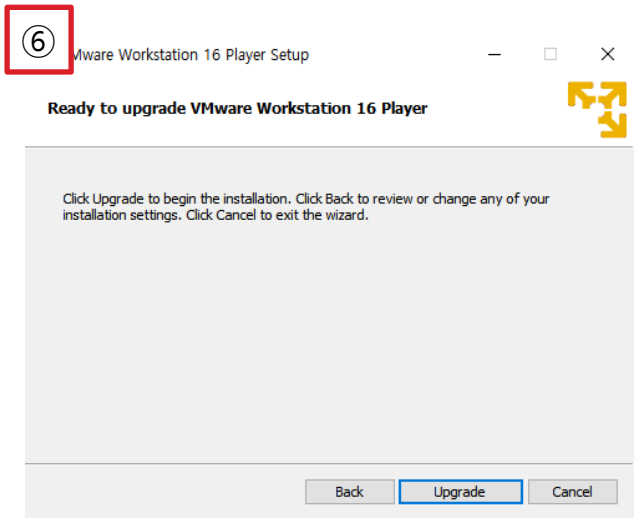
⑥ VMware를 새로 설치하는 경우, “Install”을 선택하여 설치를 진행한다.

이미 VMware가 설치되어 있는 경우, “Upgrade”를 선택하여 설치를 진행한다.

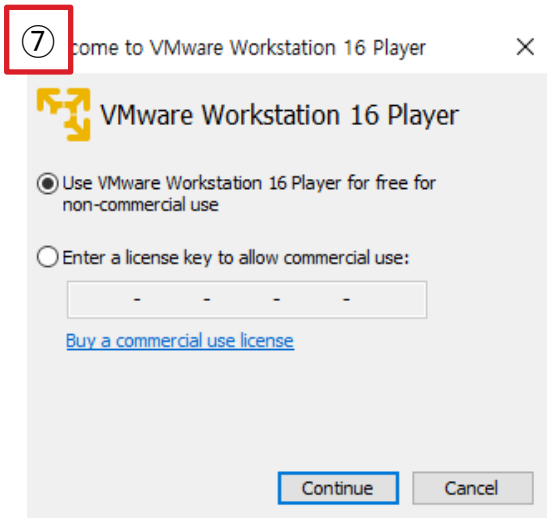
⑦ Free license를 선택한다.



[Fig 6. VMware installation ⑤]



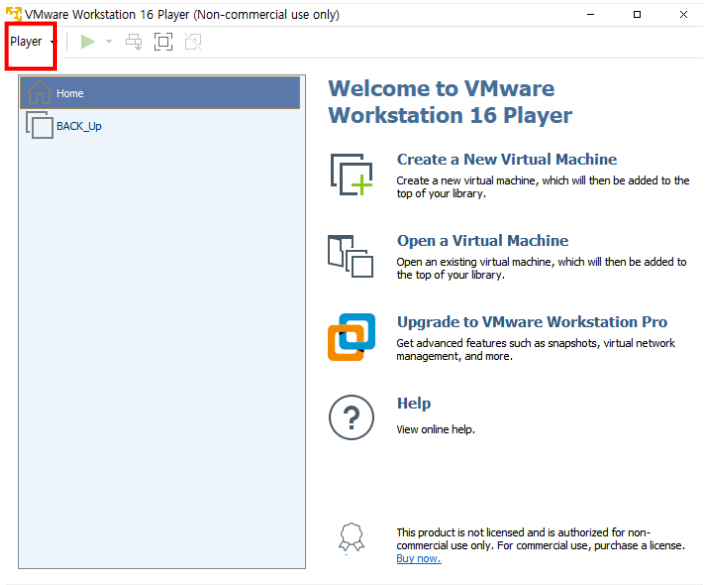
[Fig 7. VMware installation ⑥]



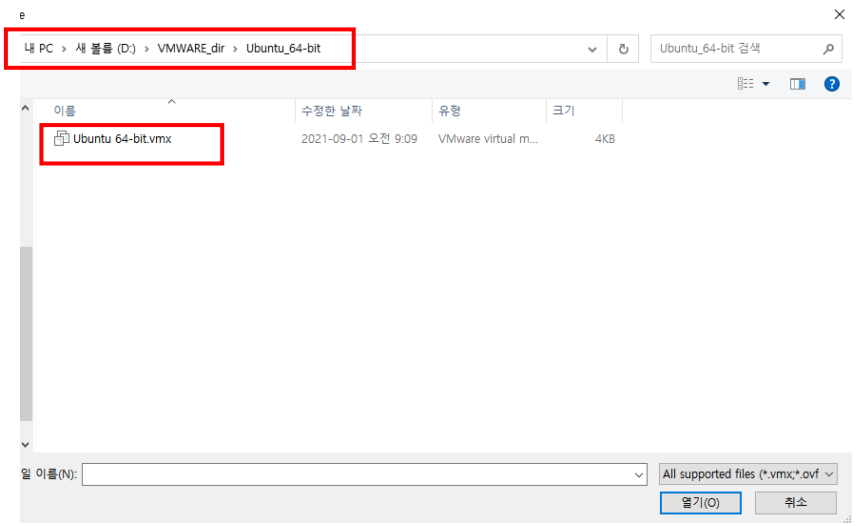
[Fig 8. VMware installation ⑦]

VMware Image Open

- 다운로드 된 “Ubuntu_64-bit.zip”을 압축해제한다.
- 설치된 Vmware를 실행하고, pre-configured Ubuntu image (Ubuntu 64-bit.vmx)를 open 하는 방법은 다음과 같다.
  - [Fig 9]의 위치에서 “Player → File → Open”을 순차적으로 선택한다.
  - [Fig 10] Ubuntu image (“Ubuntu 64-bit.vmx”)가 설치된 경로에 “Ubuntu 64-bit.vmx”를 선택하고, “열기”를 선택한다.
    - 예시와 동일하지 않은 경로에 설치되어 있을 수 있음.



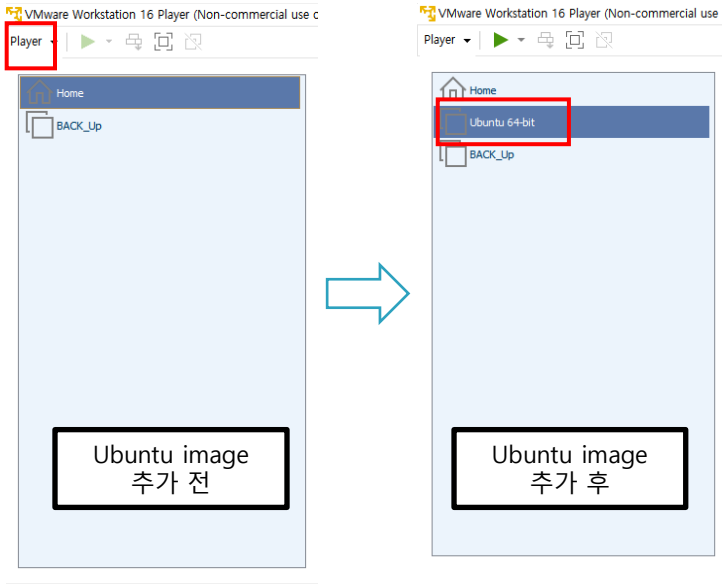
[Fig 9. VMware program 실행 화면]



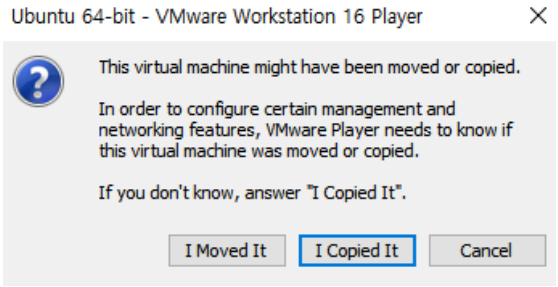
[Fig 10. VMware Ubuntu image 경로]

VMware Image Setting

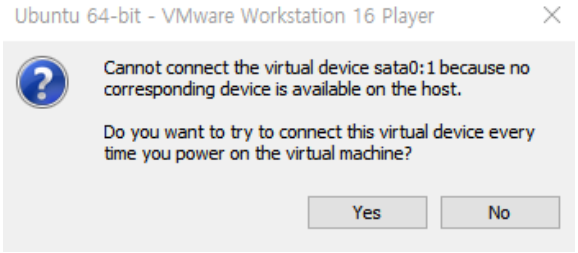
- **VMware 설정 관련 Option**
  - VMware Image Open
    - "I Moved It"
  - Device Connection
    - "Yes"
  - Software Updates
    - "Remind Me Later"



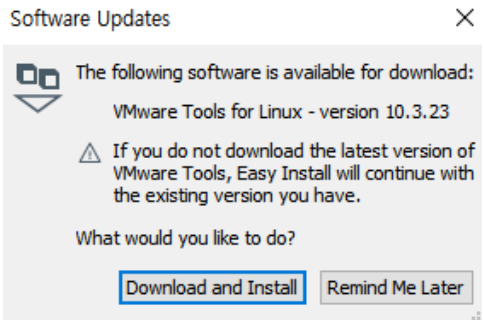
[Fig 11. Image 추가 전/후]



[Fig 12. VMware open 화면]



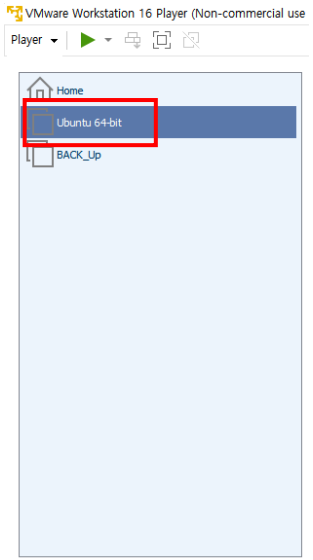
[Fig 13. Device 선택 화면]



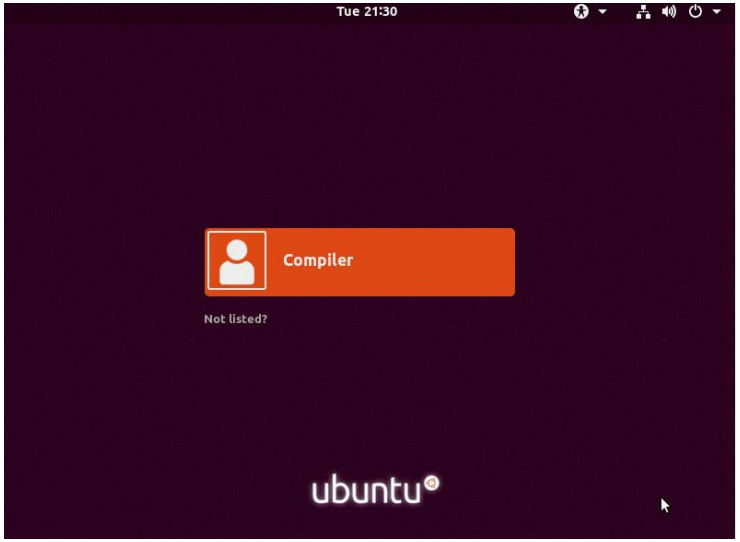
[Fig 14. SW update 화면]

Login

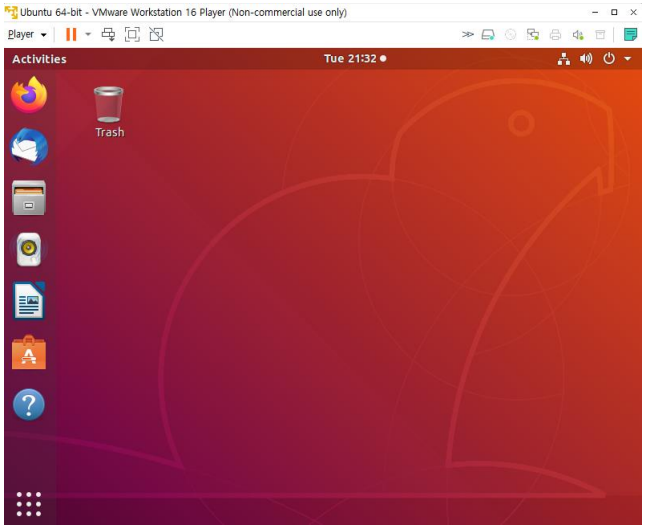
– VMware OS 선택
  - 이전 단계에서 설치한 “Ubuntu 64-bit”을 선택하여 guest OS를 load한다.
– User
  - Compiler
– Password
  - 123



[Fig 15. VMware OS 선택]



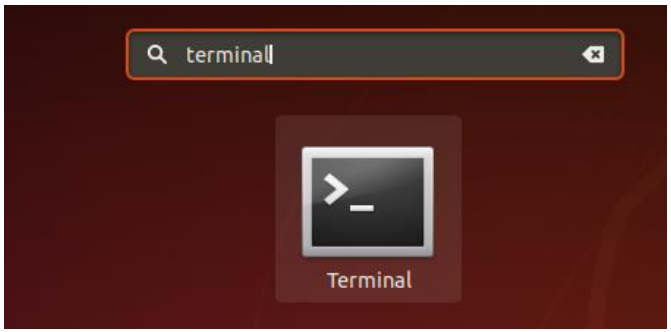
[Fig 16. Login 화면]



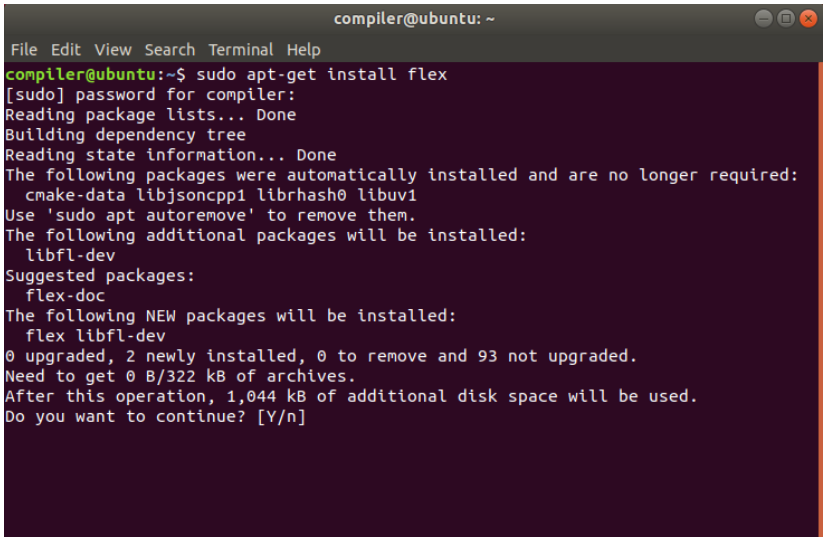
[Fig 17. 기본화면]

Test (1/2)

- **Methodology**
  - Window key로 검색창을 열고, “Terminal”을 검색하여 실행한다.
  - “sudo apt-get install flex” command를 입력하여 lex 패키지를 설치한다.



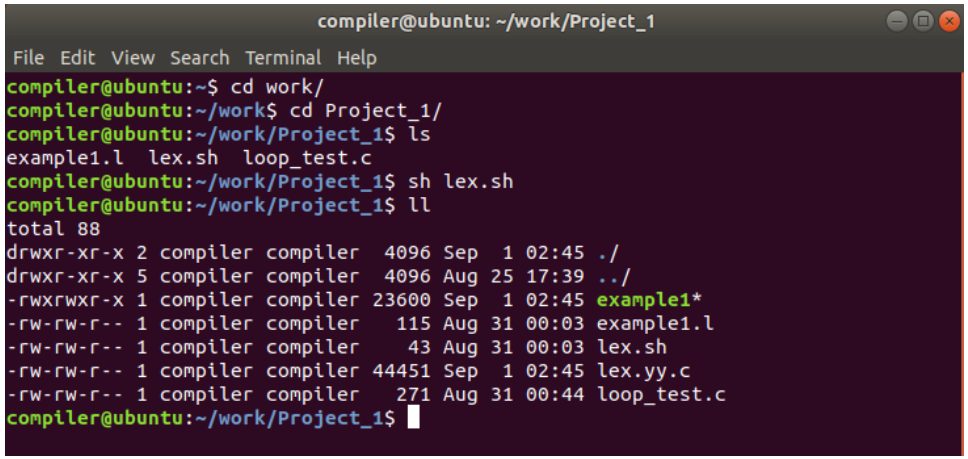
[Fig 18. Terminal 검색 화면]



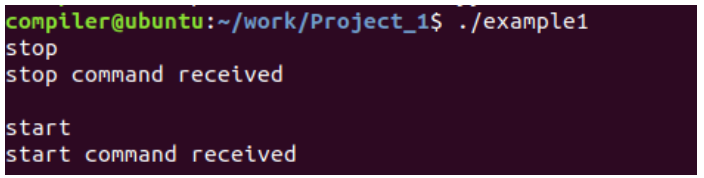
[Fig 19. Lex 패키지 설치 화면]

Test (2/2)

- **Methodology**
  - Terminal에 “cd ~/work/Project_1”와 “ll” command를 입력하고, 결과를 확인한다.
  - Terminal에 “sh lex.sh”와 “ll” command를 입력하고, “example1” elf file(binary file)이 생성된 것을 확인한다.
  - [Fig 21] “example1”을 실행한 뒤, “stop”과 “start” command를 입력하여 lex 예제의 실행을 확인한다.



[Fig 20. Terminal command 및 shell 실행 화면]



[Fig 21. Lex 예제 실행 화면]

Appendix. VMware 단축키

- **Terminal 켜기**
  - Ctrl + Alt + T
- **VMware Focus Out**
  - Ctrl + Alt
- **전체화면**
  - Ctrl + Alt + Enter
- **강제 재시작**
  - Ctrl + R
- **기타 단축키 reference**
  - https://www.vmware.com/support/ws55/doc/ws_learning_keyboard_shortcuts.html

Appendix. 기본적인 리눅스 command

- **경로 이동**
  - cd [경로]
    - . : 현재 위치
    - .. : 상위 디렉토리
    - ~ : 홈 디렉토리
- **현재 디렉토리 내의 파일 확인**
  - ll 또는 ls
- **쉘 스크립트 실행**
  - sh [shell_script_file].sh

```
compiler@ubuntu:~/work$ ll
total 20
drwxr-xr-x  5 compiler compiler 4096 Aug 25  2021 ./
drwxr-xr-x 17 compiler compiler 4096 Sep 11 23:13 ../
drwxrwxr-x 25 compiler compiler 4096 Aug 25  2021 llvm-project/
drwxr-xr-x  2 compiler compiler 4096 Sep 11 21:55 Project_1/
drwxr-xr-x 25 compiler compiler 4096 Aug 25  2021 riscv-gnu-toolchain/
compiler@ubuntu:~/work$ cd Project_1
compiler@ubuntu:~/work/Project_1$ cd ..
compiler@ubuntu:~/work$
```

[Fig 22. Linux command example]