

# Homework #3

1. Do "mkdir ~/chmod\_test", then do "cd ~/chmod\_test", then do the following commands one by one.

```
for t in {0..21}; do if [ $t -lt 10 ]; then touch 0"$t"; else touch $t; fi done
```

```
i=1; for t in {1..7}; do if [ $t -lt 10 ]; then t=0"$t"; fi; chmod 000"$i" $t; i=$((i+1)); done
```


```
i=1; for t in {8..14}; do if [ $t -lt 10 ]; then t=0"$t"; fi; chmod 00"$i"0 $t; i=$((i+1)); done
```

```
i=1; for t in {15..21}; do chmod 0"$i"00 $t; i=$((i+1)); done
```

```
mkdir 22
```

```
chmod 000 22
```

Then, do "ls -l".

- Take a screenshot 
- List files which can be read by file owner
- List files which can be executed by file group members
- List files which can be written by others.


2. Do the following commands one by one.

```
i=1; for t in {1..7}; do if [ $t -lt 10 ]; then t=0"$t"; fi; chmod 700"$i" $t; i=$((i+1)); done
```


```
i=1; for t in {8..14}; do if [ $t -lt 10 ]; then t=0"$t"; fi; chmod 70"$i"0 $t; i=$((i+1)); done
```

```
i=1; for t in {15..21}; do chmod 7"$i"00 $t; i=$((i+1)); done
```

Then do "ls -l".

- Take a screenshot 
- Discuss the difference between files with "S" or "T" and files "s" or "t".

3. Do "rm ??", then press "y" key whenever cursor waits for your input. Then, do "rmdir 22"

- Take a screenshot 
- List the files which remove without the interactive question. And describe the common characteristics of these files.

4. Do the following commands one by one.

```
touch a b c d e f g h i
chmod = *
chmod 714 a
chmod u+rw b
chmod u+xs,g+r,o= c
chmod ug+rw,o+r d
chmod u+rw,g+rws,o= e
chmod ugo+x f
chmod 755 g
chmod 7744 h
chmod u=,g=,o=t i
```

Then, do "ls -al"

- Take a screenshot 

5. do the following commands.

```
for t in {0..7}; do if [ $t -lt 10 ]; then mkdir 0"$t"; else mkdir $t; fi done
i=1; for t in {1..7}; do if [ $t -lt 10 ]; then t=0"$t"; fi; chmod 0"$i"00 $t; i=$((i+1)); done
ls -l
```

- Take a screenshot 

Then, do the following command

```
i=1; for t in {1..7}; do if [ $t -lt 10 ]; then t=0"$t"; fi; echo "touch $t/a"; touch $t/a; i=$((i+1)); done
```

- Take a screenshot 

- List directories which contain an empty file "a". And describe why they can generate the file.

Then do the following command

```
i=1; for t in {1..7}; do if [ $t -lt 10 ]; then t=0"$t"; fi; echo "ls $t"; ls -al $t; i=$((i+1)); done
```

- Take a screenshot 


- List directories which print some results for "ls" command. Why?

- Find a directory which presents the correct details of its sub files. Why?


### PROBLEM !!

How to delete the directory "03" ?


6. Do "mkdir ~/homework3", then do "cd ~/homework3", then do "su", then do "cp /bin/bash backbash", then do "chmod u+s backbash", then do "ls -l backbash", then do "touch c", then do "chmod 600 c", then do "exit", then do "cat c", then do "id", then do "./backbash -p", then do "cat c", then do "id", then do "exit". Then do "rm -f backbash c"

- Take a screenshot 
- Explain the difference between the first "cat" result and the second "cat" result.
- Describe the difference between the first "id" result and the second "id" result.

7. Do "su - peterpan" (user peterpan should exist), then do "clear", then do "mkdir proj1", then do "mkdir proj1/sub1", then do "ls -l proj1", then do "chgrp defender proj1", then do "chmod g+s proj1", then do "mkdir proj1/sub2", then do "touch proj1/a", then do "ls -l proj1".

- Take a screenshot 
- What is difference between the "sub1" directory and the "sub2" directory? Why?
- What is the ownership of the file proj1/a. Why?

8. Do "clear", then do "mkdir shared", then do "chmod 777 shared", then do "mkdir shared\_t", then do "chmod 1777 shared\_t", then do "touch shared/a", then do "touch shared\_t/a", then do "cd shared", then do "su hook" (user hook should exist), then do "rm a", then do "exit", then do "cd ../shared\_t", then do "su hook" (user hook should exist), then do "rm a", then do "exit", then do "exit".

- Take a screenshot 
- Which file is removed? Why?

## # Problem #

1. 유저 wendy의 home directory에 secret이라는 directory를 만든다. 이 directory의 내용은 peterpan과 wendy만이 볼수 있다. 이 directory내에 letter\_to\_peter 라는 파일을 만들고 그 안에 "Hi Peter, See you on Monday :)" 라는 내용을 적어 넣는다. 이 파일은 peterpan과 wendy만 볼수 있게 해야 하며, peterpan은 이파일의 내용을 수정하지 못한다. 하지만 peterpan은 이 directory에 파일을 생성 할 수 있다.

-수행해야 할 명령어들을 순서대로 나열하고 그 역할을 설명하시오.

-결과의 확인을 위해 wendy의 home directory에서 "ls -l"을 수행한 결과와, secret directory에서 "ls -l"을 수행한 결과를 캡처한다. 📷

2. Create a directory "secret" under wendy's home directory. The contents of this directory are visible only to peterpan and wendy. Create a file "letter\_to\_peter" and insert the content "Hi Peter, See you on Monday :)" into the file. This file can be read only by peterpan and wendy, and peterpan cannot modify the contents of the file. Peterpan can create a file under the directory "secret".

- List the required command in successive order, then explain the role of each command.

- For the purpose of verification, capture the result of "ls -l" command under wendy's home directory and the results of "ls -l" command under the directory "secret". 📷

2. 정확한 접근권한과 소유권을 가지는 다음의 파일들과 디렉토리들을 생성하시오.

1) 이 작업을 위한 명령어를 순서대로 나열하시오.

2) 확인을 위해 "ls -al" 결과를 첨부하시오. 📷

2. Create the following files and directories with correct access permission and ownership.

1) List the required command sequentially for this job.

2) For validation, attach the screenshot of the result of "ls -al". 📷

```
--wx-w-r-T 1 peterpan neverland 0 Mar 22 01:01 a
-rw-rw-r-- 1 wendy neverland 0 Mar 22 01:01 .a
--w-r-Sr-t 1 peterpan defender 0 Mar 22 01:01 b
---x--Sr-T 1 peterpan defender 0 Mar 22 01:02 c
---S--S-wT 1 wendy defender 0 Mar 22 01:02 d
--wx-wx-wx 1 wendy defender 0 Mar 22 01:02 e
-rw-r-xr-x 1 hook attacker 0 Mar 22 01:02 f
-rwxr-xr-- 1 hook attacker 0 Mar 22 01:02 g
-r-sr-xr-x 1 hook attacker 0 Mar 22 01:04 h
drwxr-xr-x 2 peterpan neverland 4096 Mar 22 01:05 sec
drwxr-xr-t 2 wendy neverland 4096 Mar 22 01:01 .sec
```

3. 유저 wendy의 home directory에 "test1" 파일을 만든다. 이 파일의 내용은 같은 그룹의 peterpan과 wendy만 보고 수정할 수 있게 해야 하며, 그외 사람들은 볼 수만 있게 한다.

- 수행해야 할 명령어들을 순서대로 나열하고 그 역할을 설명하시오.
- 결과의 확인을 위해 유저를 변경하며 다음의 명령어를 수행하고 그 결과를 확인하시오 📺.

3. Create "test1" file in user wendy's home directory. The contents of this file should only be viewable and editable by peterpan and wendy in the same group, and only viewable by others.

- List the commands to be executed in order and explain their role.
- To check the result, change the user and execute the following command and check the result

```
sudo su wendy
```

```
echo The $USER can revise the test1 > test1
```

```
cat test1
```

```
exit
```

```
sudo su peterpan
```

```
echo The $USER can revise the test1 > test1
```

```
cat test1
```

```
exit
```

```
sudo su hook
```

```
echo The $USER can revise the test1 > test1
```

```
cat test1
```

```
exit
```

4. Simply explain chmod command - Absolute Mode and Symbolic Mode.