

NATIONAL UNIVERSITY OF MODERN LANGUAGES
ISLAMABAD



MACHINE LEARNING (LAB)

Assignment: 01

Submitted to
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Question # 01

- Use `cd` to go to your home directory, and create a new directory there called `dog`.

```
junaidasifdev@Joni:~$ cd
junaidasifdev@Joni:~$ mkdir dog
junaidasifdev@Joni:~$ ls
dog  junaid
junaidasifdev@Joni:~$
```

- Create another directory within that one called `cat`, and another within that called `mouse`.

```
junaidasifdev@Joni:~$ cd dog
junaidasifdev@Joni:~/dog$ mkdir cat
junaidasifdev@Joni:~/dog$ cd cat
junaidasifdev@Joni:~/dog/cat$ mkdir mouse
junaidasifdev@Joni:~/dog/cat$
```

- Remove all three directories. You can either remove them one at a time, or all at once.

```
junaidasifdev@Joni:~$ cd dog
junaidasifdev@Joni:~/dog$ cd cat
junaidasifdev@Joni:~/dog/cat$ rmdir mouse
junaidasifdev@Joni:~/dog/cat$ cd ..
junaidasifdev@Joni:~/dog$ rmdir cat
junaidasifdev@Joni:~/dog$ cd ..
junaidasifdev@Joni:~$ rmdir dog
junaidasifdev@Joni:~$ ls
junaid
junaidasifdev@Joni:~$
```

- If you can delete directories with `rm -r`, what is the point of using `rmdir` for empty directories?
 - Use `rmdir` when you want to ensure you're only removing empty directories.
 - Use `rm -r` for deleting directories with contents.

- Try creating the dog/cat/mouse directory structure with a single command.

```
junaidasifdev@Joni:~$ mkdir -p dog/cat/mouse
junaidasifdev@Joni:~$ 
junaidasifdev@Joni:~$ ls -R dog
dog:
cat

dog/cat:
mouse

dog/cat/mouse:
```

Question # 02

- Copy the file /etc/passwd to your home directory, and then use cat to see what's in it.

```
junaidasifdev@Joni:~$ cp /etc/passwd ~
junaidasifdev@Joni:~$ cat passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:./nonexistent:/usr/sbin/nologin
syslog:x:104:110:./home/syslog:/usr/sbin/nologin
_apt:x:105:65534:./nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
uidd:x:107:112:./run/uidd:/usr/sbin/nologin
tcpdump:x:108:113:./nonexistent:/usr/sbin/nologin
sshd:x:109:65534:./run/sshd:/usr/sbin/nologin
landscape:x:110:115:./var/lib/landscape:/usr/sbin/nologin
pollinate:x:111:1:./var/cache/pollinate:/bin/false
fwupd-refresh:x:112:116:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
junaidasifdev:x:1000:1000:,,,:/home/junaidasifdev:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:./usr/sbin/nologin
lxd:x:998:100:./var/snap/lxd/common/lxd:/bin/false
```

- Rename it to users using the mv command.

```
junaidasifdev@Joni:~$ ls
dog junaid passwd
junaidasifdev@Joni:~$ mv passwd users
junaidasifdev@Joni:~$ ls
dog junaid users
junaidasifdev@Joni:~$
```

- Make a directory called programs and copy everything from /bin into it.

```
junaidasifdev@Joni:~$ mkdir programs
junaidasifdev@Joni:~$ cp -r /bin/* programs
junaidasifdev@Joni:~$ ls
dog junaid programs users
```

- Delete all the files in the programs directory.

```
junaidasifdev@Joni:~/programs$ cd
junaidasifdev@Joni:~$ rm -r programs/*
junaidasifdev@Joni:~$ ls
dog junaid programs users
junaidasifdev@Joni:~$ cd programs
junaidasifdev@Joni:~/programs$ ls
junaidasifdev@Joni:~/programs$
```

- Delete the empty programs directory and the users file.

```
junaidasifdev@Joni:~$ rmdir programs
junaidasifdev@Joni:~$ rmdir users
rmdir: failed to remove 'users': Not a directory
junaidasifdev@Joni:~$ rm users
junaidasifdev@Joni:~$ ls
dog junaid
junaidasifdev@Joni:~$
```

Question # 03

- The touch command can be used to create new empty files. Try that now, picking a name for the new file:

➤ \$ touch baked-beans

```
junaidasifdev@Joni:~$ ls
dog junaid
junaidasifdev@Joni:~$ touch baked-beans
junaidasifdev@Joni:~$ ls
baked-beans dog junaid
junaidasifdev@Joni:~$
```

- Get details about the file using the ls command:

➤ \$ ls -l baked-beans

```
junaidasifdev@Joni:~$ ls -l baked-beans
-rw-r--r-- 1 junaidasifdev junaidasifdev 0 Nov 15 17:03 baked-beans
```

- Wait for a minute, and then try the previous two steps again, and see what changes. What happens Operating Systems when we don't specify a time to touch?

```
junaidasifdev@Joni:~$ touch baked-beans
junaidasifdev@Joni:~$ ls -l baked-beans
-rw-r--r-- 1 junaidasifdev junaidasifdev 0 Nov 15 17:11 baked-beans
```

- Try setting the timestamp on the file to a value in the future.

```
junaidasifdev@Joni:~$ touch -t 202411201720 baked-beans
junaidasifdev@Joni:~$ ls -l baked-beans
-rw-r--r-- 1 junaidasifdev junaidasifdev 0 Nov 20 2024 baked-beans
```

- When you're finished with it, delete the file.

```
junaidasifdev@Joni:~$ rm baked-beans
junaidasifdev@Joni:~$ ls
dog junaid
```

