OUPUTS:

1]docker installation:

```
stud_user@stud:~$ sudo apt install docker.io
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker.io is already the newest version (20.10.12-0ubuntu4).
0 upgraded, 0 newly installed, 0 to remove and 202 not upgraded.
stud_user@stud:~$
```

2]docker pull:

```
stud_user@stud:~$ docker --version
Docker version 20.10.12, build 20.10.12-0ubuntu4
stud_user@stud:~$ sudo docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
2ab09b027e7f: Pull complete
Digest: sha256:67211c14fa74f070d27cc59d69a7fa9aeff8e28ea118ef3babc295a0428a6d21
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
stud_user@stud:~$
```

3]docker images:

```
stud_user@stud:~$ sudo docker images
REPOSITORY         TAG        IMAGE ID       CREATED         SIZE
ubuntu             latest     08d22c0ceb15   5 weeks ago     77.8MB
nginx              latest     ac8efec875ce   4 months ago    142MB
myimg              latest     06ba61ecbcf4   4 months ago    77.8MB
myfile             latest     2b6ed5ffc375   4 months ago    72.8MB
jenkins/jenkins    lts        edcfca03195b   4 months ago    464MB
mysql              latest     a3a2968869cf   4 months ago    538MB
jenkins/jenkins    latest     a4b42cf854ad   4 months ago    469MB
ubuntu             <none>     a8780b506fa4   5 months ago    77.8MB
ubuntu             20.04      680e5dfb52c7   5 months ago    72.8MB
ubuntu             16.04      b6f507652425   19 months ago   135MB
stud_user@stud:~$
```

4]docker ps:

```
stud_user@stud:~$ sudo docker run -it --name demo ubuntu
root@1656c6e65d06:/# ^C
root@1656c6e65d06:/# exit
exit
stud_user@stud:~$ sudo docker ps
CONTAINER ID    IMAGE       COMMAND     CREATED     STATUS      PORTS       NAMES
stud_user@stud:~$ sudo docker ps -a
CONTAINER ID    IMAGE           COMMAND             CREATED         STATUS
                        PORTS                               NAMES
1656c6e65d06    ubuntu          "/bin/bash"         2 minutes ago   Exited (1
30) About a minute ago                              demo
93ec7a48e8be    nginx           "/docker-entrypoint..."  4 months ago   Exited (2
```

5]docker run:

```
stud_user@stud:~$ sudo docker run -it --name demo ubuntu
root@1656c6e65d06:/# ^C
root@1656c6e65d06:/# exit
exit
stud_user@stud:~$
```

6]docker exec:

```
stud_user@stud:~$ sudo docker start demo
demo
stud_user@stud:~$ sudo docker exec -it 1656c6e65d06 bash
root@1656c6e65d06:/# █
```

7]docker stop:

```
stud_user@stud:~$ sudo docker ps
CONTAINER ID    IMAGE       COMMAND         CREATED         STATUS          PORTS       NAMES
1656c6e65d06    ubuntu      "/bin/bash"     9 minutes ago   Up 2 minutes                demo
stud_user@stud:~$ sudo docker stop demo
demo
stud_user@stud:~$ sudo docker ps
CONTAINER ID    IMAGE       COMMAND     CREATED     STATUS      PORTS       NAMES
stud_user@stud:~$ █
```

8]docker rm:

```
stud_user@stud:~$ sudo docker rm demo
demo
stud_user@stud:~$ sudo docker ps
CONTAINER ID    IMAGE       COMMAND     CREATED     STATUS      PORTS       NAMES
stud_user@stud:~$
```

9]docker commit:

```
stud_user@stud:~$ sudo docker run -it --name container_one ubuntu /bin/bash
root@d0c206890015:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@d0c206890015:/# cd tmp
root@d0c206890015:/tmp# ls
root@d0c206890015:/tmp# touch myfile
root@d0c206890015:/tmp# exit
exit
stud_user@stud:~$ sudo docker diff container_one
C /root
A /root/.bash_history
C /tmp
A /tmp/myfile
stud_user@stud:~$ sudo docker commit container_one image_one
sha256:61e18de12f8b36578fe70265b662273c1892fa82bcec407f6fb92ff0af37aef0
stud_user@stud:~$ sudo docker images
REPOSITORY        TAG       IMAGE ID      CREATED         SIZE
image_one         latest    61e18de12f8b  31 seconds ago  77.8MB
testimg           latest    8790aac8c949  15 minutes ago  77.8MB
ubuntu            latest    08d22c0ceb15  5 weeks ago     77.8MB
nginx             latest    ac8efec875ce  4 months ago    142MB
myimg             latest    06ba61ecbcf4  4 months ago    77.8MB
jenkins/jenkins   latest    a4b42cf854ad  4 months ago    469MB
ubuntu            <none>    a8780b506fa4  5 months ago    77.8MB
ubuntu            20.04     680e5dfb52c7  5 months ago    72.8MB
stud_user@stud:~$ sudo docker run -it --name container_two image_one /bin/bash
root@40d0f9bc4e45:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@40d0f9bc4e45:/# cd tmp
root@40d0f9bc4e45:/tmp# ls
myfile
root@40d0f9bc4e45:/tmp# exit
exit
stud_user@stud:~$
```

10]docker build (Dockerfile):

```
stud_user@stud:~$ sudo nano Dockerfile
stud_user@stud:~$ sudo docker build -t testimg .
Sending build context to Docker daemon  169.3MB
Step 1/2 : FROM ubuntu
 ---> 08d22c0ceb15
Step 2/2 : RUN echo "Hello Docker! Learning Docker! " >/tmp/testfile
 ---> Running in e424c5f8d8f1
Removing intermediate container e424c5f8d8f1
 ---> 8790aac8c949
Successfully built 8790aac8c949
Successfully tagged testimg:latest
stud_user@stud:~$ sudo docker run -it --name testcontainer testimg /bin/bash
root@c87b11501abf:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  r
un  sbin  srv  sys  tmp  usr  var
root@c87b11501abf:/# cd tmp
root@c87b11501abf:/tmp# ls
testfile
root@c87b11501abf:/tmp# cat testfile
Hello Docker! Learning Docker!
root@c87b11501abf:/tmp# exit
exit
stud_user@stud:~$
```