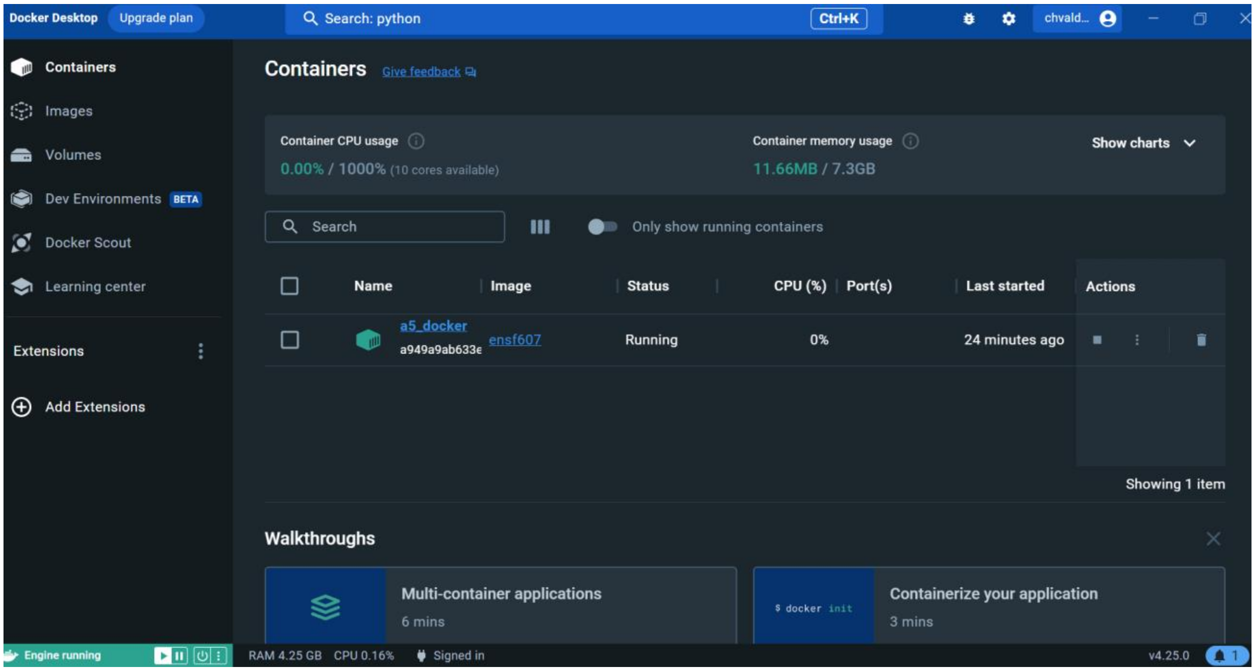
1. Install a docker desktop on your computer.
2. Create a Docker Hub account.



Containers

Container CPU usage: 0.00% / 1000% (10 cores available)

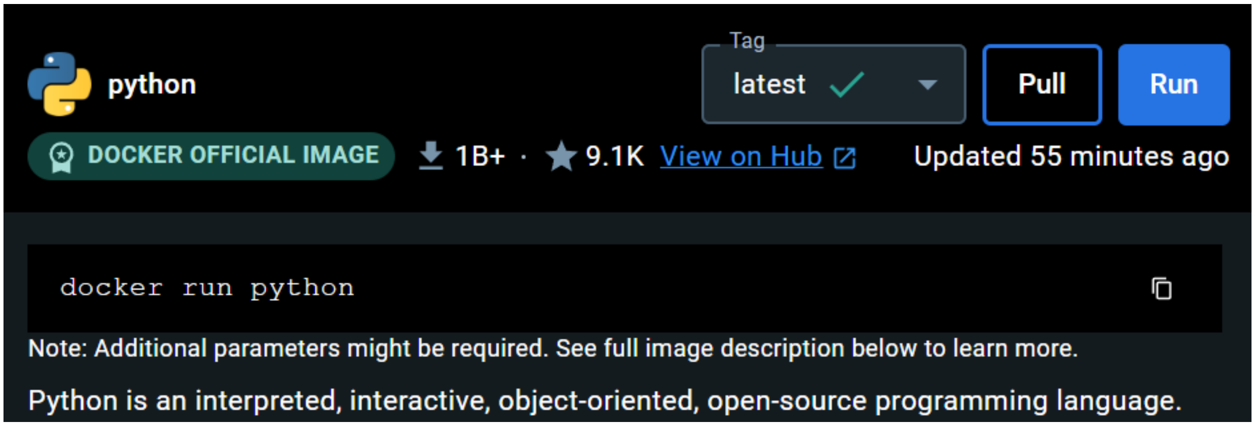
Container memory usage: 11.66MB / 7.3GB

	Name	Image	Status	CPU (%)	Port(s)	Last started	Actions
□							
□	a5_docker a949a9ab633e	ensf607	Running	0%		24 minutes ago	

Showing 1 item

RAM 4.25 GB CPU 0.16%

3. Find a Python image that you could use on the docker hub.

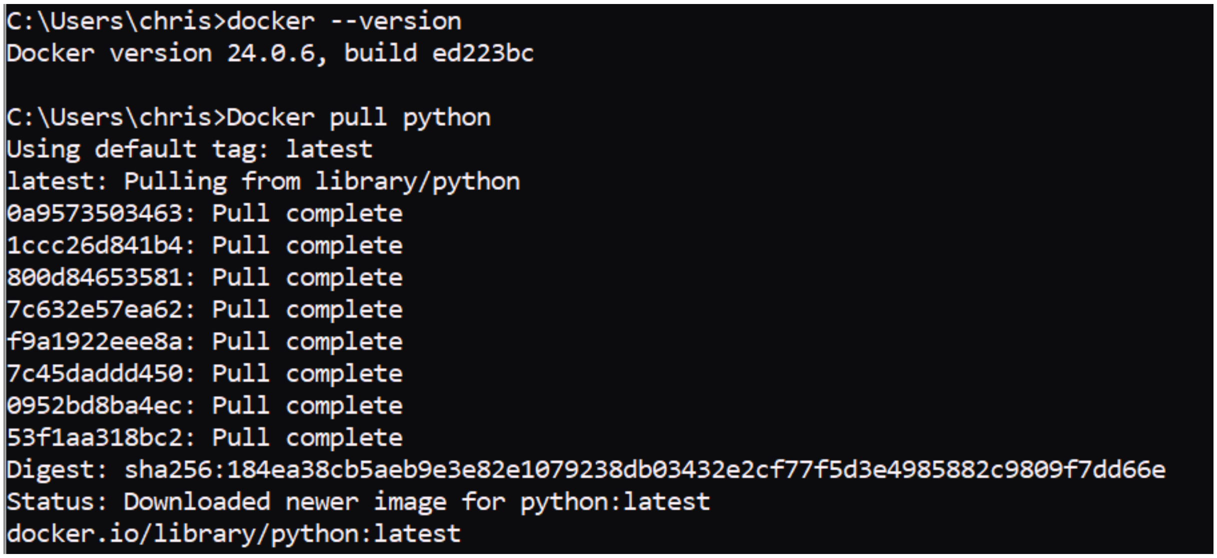


```
docker run python
```

Note: Additional parameters might be required. See full image description below to learn more.

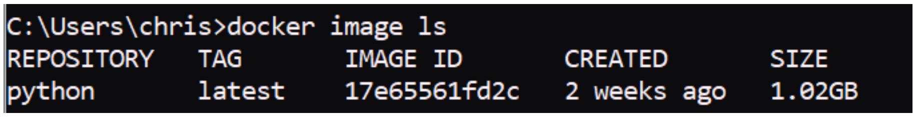
Python is an interpreted, interactive, object-oriented, open-source programming language.

4. Now go to the cmd line on your computer and run the following command.



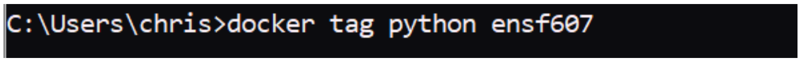
```
C:\Users\chris>docker --version
Docker version 24.0.6, build ed223bc

C:\Users\chris>Docker pull python
Using default tag: latest
latest: Pulling from library/python
0a9573503463: Pull complete
1ccc26d841b4: Pull complete
800d84653581: Pull complete
7c632e57ea62: Pull complete
f9a1922eee8a: Pull complete
7c45daddd450: Pull complete
0952bd8ba4ec: Pull complete
53f1aa318bc2: Pull complete
Digest: sha256:184ea38cb5aeb9e3e82e1079238db03432e2cf77f5d3e4985882c9809f7dd66e
Status: Downloaded newer image for python:latest
docker.io/library/python:latest
```

5. Docker image ls



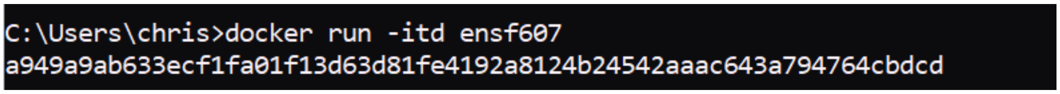
```
C:\Users\chris>docker image ls
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
python       latest    17e65561fd2c   2 weeks ago   1.02GB
```

6. Now rename this image to something more useful.



```
C:\Users\chris>docker tag python ensf607
```

7. Now run a container using this image within the docker



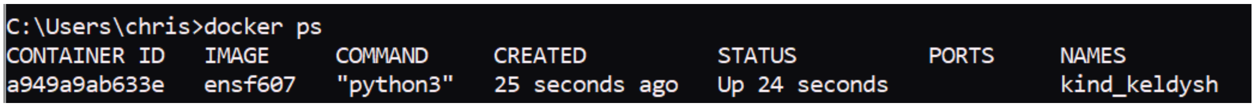
```
C:\Users\chris>docker run -itd ensf607
a949a9ab633ecf1fa01f13d63d81fe4192a8124b24542aaac643a794764cbdcd
```

-i: Keeps the container's standard input open for interactive use.

-t: Allocates a pseudo-terminal for use within the container, enabling interaction with a shell.

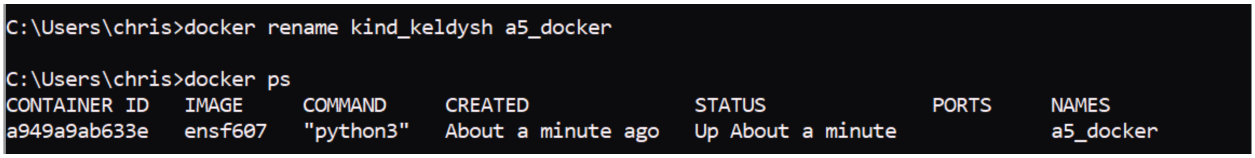
-d: Runs the container in the background, independent of the current command line session

8. Docker ps



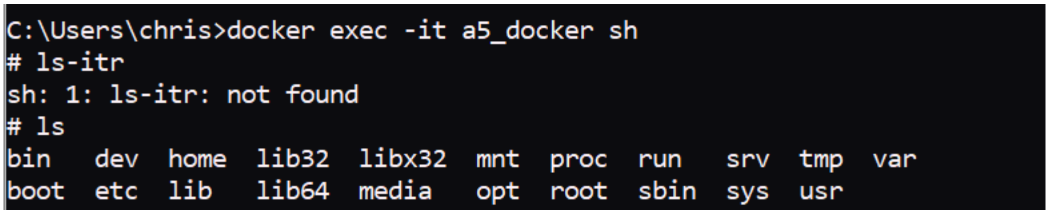
```
C:\Users\chris>docker ps
CONTAINER ID   IMAGE     COMMAND     CREATED          STATUS          PORTS     NAMES
a949a9ab633e   ensf607   "python3"   25 seconds ago   Up 24 seconds             kind_keldysh
```

9. You will see that docker assigns a random name (id far right) to your loaded image.
10. Rename the Python container.

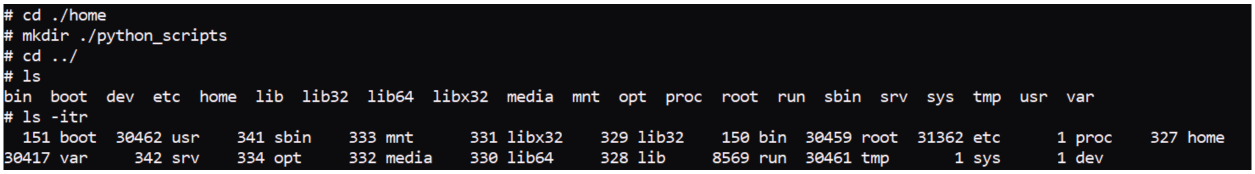


```
C:\Users\chris>docker rename kind_keldysh a5_docker

C:\Users\chris>docker ps
CONTAINER ID   IMAGE     COMMAND     CREATED              STATUS              PORTS     NAMES
a949a9ab633e   ensf607   "python3"   About a minute ago   Up About a minute             a5_docker
```

11. Now we want to go into the container.
12. Create folders

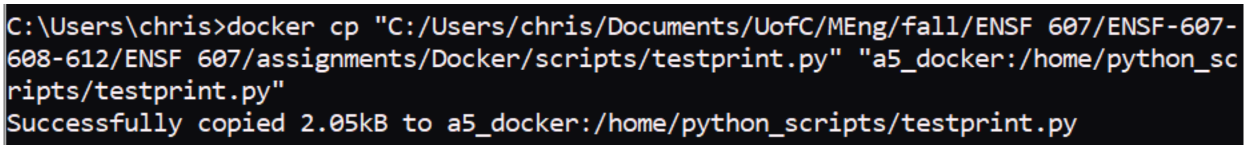


```
C:\Users\chris>docker exec -it a5_docker sh
# ls-itr
sh: 1: ls-itr: not found
# ls
bin   dev  home  lib32  libx32  mnt  proc  run   srv  tmp  var
boot  etc  lib   lib64  media   opt  root  sbin  sys  usr
```

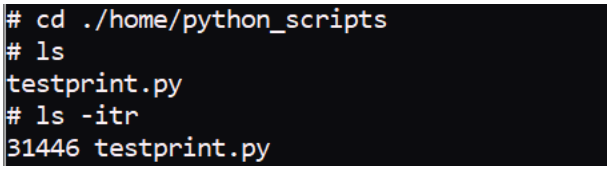


```
# cd ./home
# mkdir ./python_scripts
# cd ../
# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
# ls -itr
  151 boot  30462 usr    341 sbin    333 mnt      331 libx32    329 lib32    150 bin  30459 root  31362 etc      1 proc    327 home
30417 var     342 srv    334 opt     332 media    330 lib64     328 lib     8569 run  30461 tmp       1 sys      1 dev
```

13. Now we want to upload our little Python script named testprint.py.
14. Run the command to upload the python script.

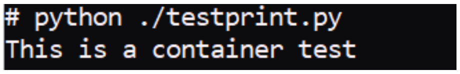


```
C:\Users\chris>docker cp "C:/Users/chris/Documents/UofC/MEng/fall/ENSF 607/ENSF-607-
608-612/ENSF 607/assignments/Docker/scripts/testprint.py" "a5_docker:/home/python_sc
ripts/testprint.py"
Successfully copied 2.05kB to a5_docker:/home/python_scripts/testprint.py
```



```
# cd ./home/python_scripts
# ls
testprint.py
# ls -itr
31446 testprint.py
```

15. Run the command.



```
# python ./testprint.py
This is a container test
```