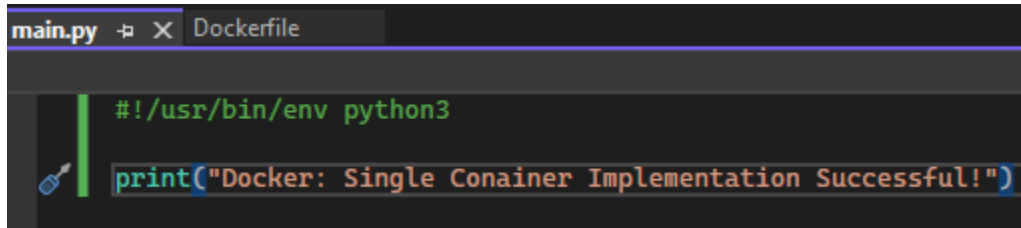# Docker Container

Created docker image and container to execute simple python script.
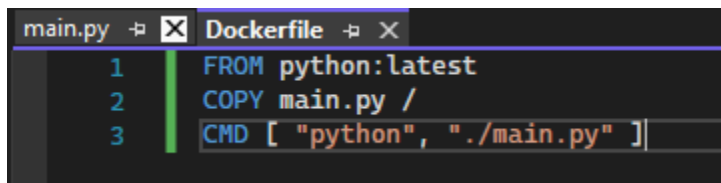
Steps taken:

Step 1: Created a python file: main.py
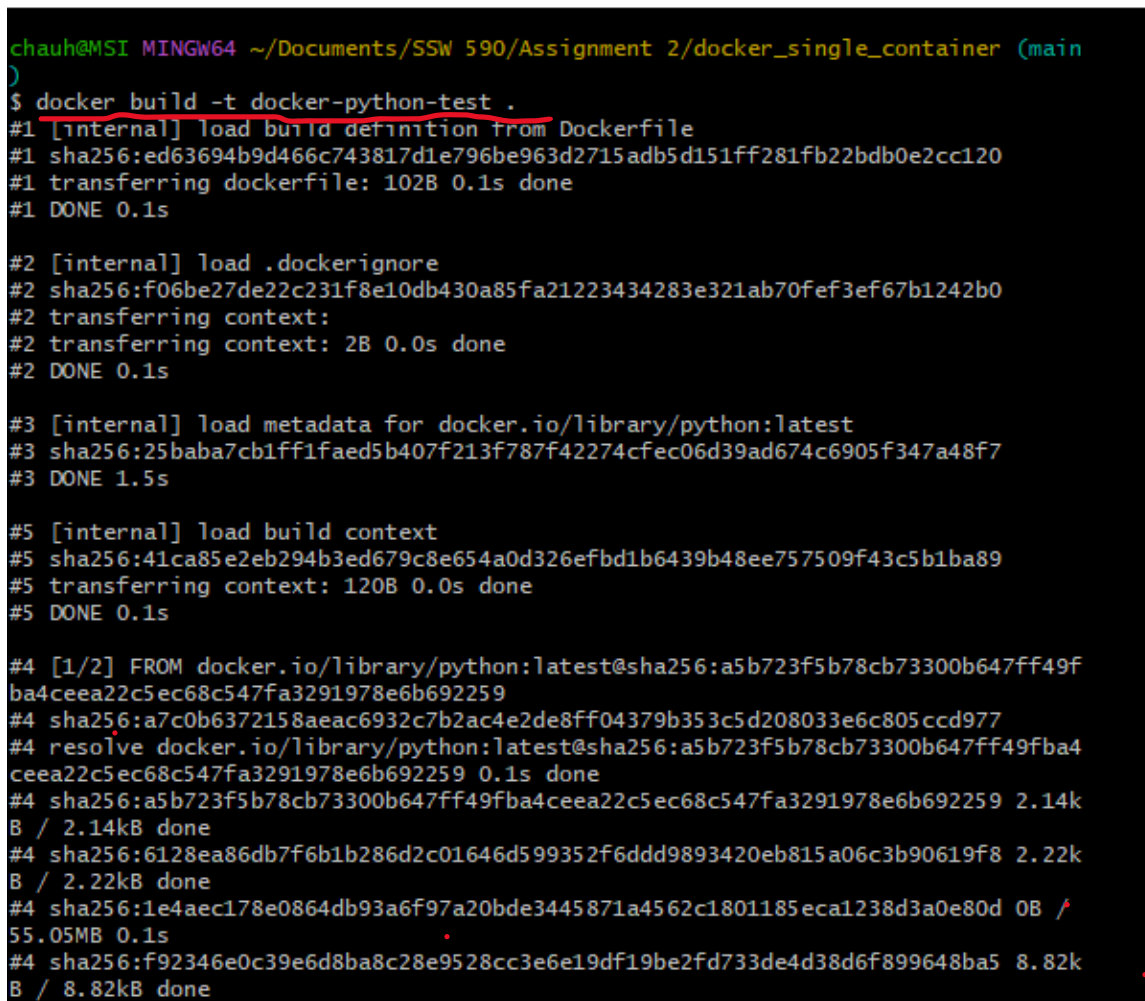
```
main.py  ⊞ ✕  Dockerfile

      #!/usr/bin/env python3

      print("Docker: Single Conainer Implementation Successful!")
```

Step 2: Created Dockerfile with environment parameters to run above python script

```
main.py  ⊞ ☒  Dockerfile  ⊞ ✕
    1      FROM python:latest
    2      COPY main.py /
    3      CMD [ "python", "./main.py" ]
```

Step 3: Ran docker build command to build docker image named docker-python-test

```
chauh@MSI MINGW64 ~/Documents/SSW 590/Assignment 2/docker_single_container (main
)
$ docker build -t docker-python-test .
#1 [internal] load build definition from Dockerfile
#1 sha256:ed63694b9d466c743817d1e796be963d2715adb5d151ff281fb22bdb0e2cc120
#1 transferring dockerfile: 102B 0.1s done
#1 DONE 0.1s

#2 [internal] load .dockerignore
#2 sha256:f06be27de22c231f8e10db430a85fa21223434283e321ab70fef3ef67b1242b0
#2 transferring context:
#2 transferring context: 2B 0.0s done
#2 DONE 0.1s

#3 [internal] load metadata for docker.io/library/python:latest
#3 sha256:25baba7cb1ff1faed5b407f213f787f42274cfec06d39ad674c6905f347a48f7
#3 DONE 1.5s

#5 [internal] load build context
#5 sha256:41ca85e2eb294b3ed679c8e654a0d326efbd1b6439b48ee757509f43c5b1ba89
#5 transferring context: 120B 0.0s done
#5 DONE 0.1s

#4 [1/2] FROM docker.io/library/python:latest@sha256:a5b723f5b78cb73300b647ff49f
ba4ceea22c5ec68c547fa3291978e6b692259
#4 sha256:a7c0b6372158aeac6932c7b2ac4e2de8ff04379b353c5d208033e6c805ccd977
#4 resolve docker.io/library/python:latest@sha256:a5b723f5b78cb73300b647ff49fba4
ceea22c5ec68c547fa3291978e6b692259 0.1s done
#4 sha256:a5b723f5b78cb73300b647ff49fba4ceea22c5ec68c547fa3291978e6b692259 2.14k
B / 2.14kB done
#4 sha256:6128ea86db7f6b1b286d2c01646d599352f6ddd9893420eb815a06c3b90619f8 2.22k
B / 2.22kB done
#4 sha256:1e4aec178e0864db93a6f97a20bde3445871a4562c1801185eca1238d3a0e80d 0B /
55.05MB 0.1s
#4 sha256:f92346e0c39e6d8ba8c28e9528cc3e6e19df19be2fd733de4d38d6f899648ba5 8.82k
B / 8.82kB done
```

Once successful, to check whether image was created: executed '**docker images'** to get image list.

```
chauh@MSI MINGW64 ~/Documents/SSW 590/Assignment 2/docker_single_container (main
)
$ docker images
REPOSITORY          TAG        IMAGE ID        CREATED           SIZE
docker-python-test  latest     6498b7b226a4    22 seconds ago    925MB
```

Step 4: After successfully creating docker image, next step is to run docker container of the generated image. execute '**docker run docker-python-test**'

```
chauh@MSI MINGW64 ~/Documents/SSW 590/Assignment 2/docker_single_container (main
)
$ docker run docker-python-test
Docker: Single Conainer Implementation Successful!
```

Output in yellow box, proves the successful execution of python script.

Then, run '**docker ps -ls'** to see the containers list.

```
chauh@MSI MINGW64 ~/Documents/SSW 590/Assignment 2/docker_single_container (main
)
$ docker ps -l
CONTAINER ID   IMAGE               COMMAND            CREATED         STATUS                   PORTS      NAMES
c12a014b3016   docker-python-test  'python ./main.py'  35 minutes ago  Exited (0) 35 minutes ago            nostalgic_mcclintock
```

Reflection:

- Understood the concept of DevOps tool docker.
- Learned how to create environment specific to project executions using docker.
- Understood the relations between images and container.

Source code: https://github.com/sabudanakichdi/docker_single_container

Docker image repo: https://hub.docker.com/repository/docker/sabudanakichdi1/docker-python-test/general