

Advanced Software Engineering – Fall 2017 lab – Homework 5

Student: Orlando Leombruni – mailto: o.leombruni@gmail.com

0. Contents of the submission

- Dockerfile
- entrypoint.sh
- test.sh
- report.pdf (this file)

1. Dockerfile

The Dockerfile selects the ubuntu:latest image as base, then sets the root user's home (/root/) as the working directory and copies the entrypoint.sh script in there. After changing the script's permissions and making it executable, the Dockerfile installs both the cowsay and fortune packages via apt-get and sets entrypoint.sh as the entrypoint command.

2. entrypoint.sh

The entrypoint.sh file contains a very simple script that models the behaviour of the system depending on the number of arguments passed to the Docker container. If there are no arguments, cowthink uses a random quote generated by fortune; if some arguments are passed, cowthink will use those arguments as input.

3. Testing

The homework can be tested with the following commands:

```
docker build .
docker tag tagID tagname (optional)
docker run {tagID | tagname} [args]
```

The homework submission folder includes a file named test.sh that executes this sequence of commands. The test script has been designed with the help of fellow student Alessandra Fais, but it has been implemented independently from her.

The submission has been tested on an Ubuntu 16.04 system (running on a VMWare virtual machine using a macOS host) and also directly on both a macOS 10.13 High Sierra machine and a Raspberry Pi 3 with Raspbian Stretch.

4. Screenshots

```
++ docker build .
Sending build context to Docker daemon 4.096kB
Step 1/7 : FROM ubuntu:latest
----> 20c44cd7596f
Step 2/7 : MAINTAINER Orlando Leombruni o.leombruni@gmail.com
----> Using cache
----> 731f0ecb9ff9
Step 3/7 : WORKDIR /root
----> Using cache
----> e7540be154a6
Step 4/7 : ADD entrypoint.sh entrypoint.sh
----> Using cache
----> 7bbfc219532a
Step 5/7 : RUN chmod +x entrypoint.sh
----> Using cache
----> ef2d11fac2c4
Step 6/7 : RUN apt-get update && apt-get install -y cowsay fortune
----> Using cache
----> 1333952352ce
Step 7/7 : ENTRYPOINT /root/entrypoint.sh
----> Using cache
----> e630919cc179
Successfully built e630919cc179
+ docker tag e630919cc179 oleombruni-cowthink
+ docker run oleombruni-cowthink

( Q: What's the difference between an      )
( Irish wedding and an Irish wake? A: One )
( less drunk.                             )
-----
      o  ^__^
      o  (oo)\_______
          (____)\       )\/\
              ||----w |
              ||     ||

+ docker run oleombruni-cowthink cogito ergo cow

( cogito ergo cow )
-----
      o  ^__^
      o  (oo)\_______
          (____)\       )\/\
              ||----w |
              ||     ||
```