##get the workspace name of the VCL

pwd

## pull a image from alpine

docker pull alpine

## see the images in docker by docker imagine

docker images

## how to use image in docker

##firstly, make a temporary container or enter into a new container in the image `rocker/tidyverse`

docker run -it --rm rocker/tidyverse /bin/bash

##Then start from my computer host container to docker container

exit

##use one txt file to test

echo "hello.world" <-hw.txt

##the v is for connecting local container to docker container

docker run -it --rm -v /home/zying:/workdir rocker/tidyverse /bin/bash

##Then in this statement, you add workdir in the docker images and you could see it in the remote docker work directory

ls

##go into the workdir directory

cd workdir/

##Then write another txt files in the directory

echo "goodbye">goodbye.txt

##When we exit the docker directory, the new txt file will be added in my computer files.

## If you want to popup the new docker directory directly by command, add -w

docker run -it --rm -v /home/zying:/homework -w/homework rocker/tidyverse /bin/bash

###more general style:

docker run -it --rm -v $(pwd):$(pwd) -w$(pwd) rocker/tidyverse /bin/bash

##Then the most creative part, build our own docker image

Use dockerfiles to make it

##make a new Dockerfile

touch Dockerfile

vim Dockerfile

##write some command in it

##×°°üµÄÊ±ºò£¬¼Ç×¡Ê¹ÓÃµ¥ÒýºÅ

From rocker/tidyverse

RUN Rscript -e "install.packages('gridExtra')"

##build a new docker image `ge\_zying` by Dockerfile in home directory

docker build -t ge\_zying .

##Then open the new docker image made above

docker run -it --rm -v /home/zying:/homework -w/homework ge\_zying /bin/bash

##if you want to hide some loading the docker images in the background

##Then use -d replace -it

docker run -d --rm -v /home/zying:/homework -w/homework ge\_zying /bin/bash

docker ps

##run a bash scripts to record all docker commands.

touch run\_docker.sh

chmod +x run\_docker.sh

vim run\_docker.sh

docker run \

-d \

-v /home/zying :/homework \

-w /homework \

ge\_zying \

$@

###How to run the bash scripts

./run\_docker.sh echo "hello"

###Use a small example to show the relationship between makefile, docker container and bash

touch Makefile

vim Makefile

build:Dockerfile

docker build -t df1 .

:wq

make

##The makefile build the Docker container and we could use the .sh to use the docker and it is a environment

## it is so cool to just use ./run\_docker.sh +commands

##make is like a software to run docker container

##.sh is to use the docker file rather than open it manually every time

by docker run

###using detached mode to run a Rscripts

docker run -d --rm -v /home/zying:/homework -w/homework ge\_zying Rscript hgwells\_wordcounts.R