Cloud week 2

A docker image is a file that contains the instructions of how to build a docker container.
A container is a virtual environment that can deploy applications on their own. Containers are an improvement on virtual machines because they can share access to an OS.
A registry is a collection of and storage for docker images, hosting the content and making it available to users.

Docker commands:
FROM - specifies base image
RUN - run linux commands in the image
COPY - copy a file from host to the image
WORKDIR - set the directory for executing upcoming commands
CMD - run a program as an entry point for an application

Video of docker
https://drive.google.com/file/d/1SKgdQSi8zFExK3LZh8k3qJbAyFrhIMVm/view?usp=sharing

Multi-container Docker application
A multi-container docker application takes advantage of the ability to compartmentalize the components of a web app (in this case of this example, the application front end and the database), deploying those components to different containers.
These containers communicate with one another using http requests between http ports.

Docker commands:
EXPOSE - tell the docker container to bind a port and expose it to the host

https://drive.google.com/file/d/1ss-ivbiiHK_s5SbPq6SsVn9W3m4fyKzF/view?usp=sharing

GCP commands

Kubernetes definitions
A Pod is the basic building block of Kubernetes
A service is the abstract concept describing a group of pods that form the application. It exists on the IP address and manages the access policy to said IP.
A node is a physical or virtual resource that hosts the Pod.
A deployment is a set of instructions on how to run your application and deploy it automatically.

Define replicas
A replicaSet is an abstract concept that helps ensure that a number of copies of pods are running at once. This parallelism ensures that there is no interruption to a service if one or more pods happen to break.

Kubernetes Services