1.What does it mean to create a Docker image and why do we use Docker images?

- A Docker image is *a read-only template that contains a set of instructions for creating a container that can run on the Docker platform*.
- Docker is used to create, run and deploy applications in containers. A Docker image contains application code, libraries, tools, dependencies and other files needed to make an application run. When a user runs an image, it can become one or many instances of a container.

2. Please explain what is the difference from a Container vs a Virtual Machine?

- VMs have the host OS and guest OS inside each VM. A guest OS can be any OS, like Linux or Windows, irrespective of the host OS. In contrast, Docker containers host on a single physical server with a host OS, which shares among them. Sharing the host OS between containers makes them light and increases the boot time.

3. What are 5 examples of container orchestration tools (please list tools)?

- Container orchestration tools provide a framework for managing containers and microservices architecture at scale. There are many container orchestration tools that can be used for container lifecycle management.
  Some popular options are :
    1. Kubernetes,
    2. Docker Swarm
    3. Apache Mesos.
    4. Redhat OpenShift
    5. Amazon Elastic Container Service (Amazon ECS)

4. How does a Docker image differ from a Docker container?

- The key difference between a Docker image Vs a container is that a Docker image is a read-only immutable template that defines how a container will be realized. A Docker container is a runtime instance of a Docker image that gets created when the $ docker run command is implemented.

Docke Image	Docker Container
It is Blueprint of the Container.	It is instance of the Image.
Image is a logical entity.	Container is a real world entity.

Image is created only once.	Containers are created any number of times using image.
Images are immutable.	Containers changes only if old image is deleted and new is used to build the container.
Images does not require computing resource to work.	Containers requires computing resources to run as they run as Docker Virtual Machine
To make a docker image, you have to write script in Dockerfile.	To make container from image, you have to run “docker run IMAGE” command
Images can be shared on Docker Hub.	It makes no sense in sharing a running entity, always docker images are shared.
There is no such running state of Docker Image.	Containers uses RAM when created and in running state.