



COMSATS University Islamabad

Attock Campus

Program: Program: BSCS

Fall 2022

Mid Term

Topics in Computer Science (CSC-350)

November 21, 2022

Time: 90 min

Total Marks: (40)

Name _____

Reg. # SP19/BCS/ - _____

Attempt all Questions!

Question No 1.

[16 Marks] [C1, C2, C3]

Please **select only one choice** which is more appropriate to the question being attempted.

Fill correct option in following table.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

- A Docker container is often described as an improvement over what other technology?
a) cloud computing
b) DevOps
c) virtual machines
d) microservices
- Which programming language was used to write Docker?
a) Java
b) C++
c) Go
d) Python
- Information on how to build a Docker image is written in a file named:
a) Jenkinsfile
b) docker-compose
c) dockerimage
d) Dockerfile
- Containers running on a single machine all share the same operating system kernel, so they start instantly and make more efficient use of RAM.
a) True
b) False
- Docker containers are based on open standard _____.
a) Allowing containers to run on all major Linux distributions only
b) Allowing containers to run on all Microsoft operating systems only
c) Allowing containers to run on all major Linux distributions and Microsoft operating systems
- Containers include the application and all its dependencies but share the kernel with other containers. They run as an isolated process in the

user space on the host operating system. They're also not tied to any specific infrastructure – Docker containers run on any computer, on any infrastructure, and in any cloud.

- a) True
b) False

- _____ is a cloud-hosted service from Docker that provides registry capabilities for public and private content.
a) Docker Swarm
b) Docker Hub
c) Docker Cloud
d) Docker Compose
- _____ is a tool for defining and running multi-container Docker applications.
a) Docker Swarm
b) Docker Hub
c) Docker Cloud
d) Docker Compose
- _____ is native clustering for Docker. It turns a pool of Docker hosts into a single, virtual Docker host.
a) Docker Swarm
b) Docker Hub
c) Docker Cloud
d) Docker Compose
- What happens if you attempt to perform a Docker build based on an image that has not been previously referenced on your machine?
a) Docker will return a 408: image not found message.
b) Docker will return a 404: file not found message.
c) Docker will pull the image from GitHub.

- d) Docker will pull the image from Docker Hub.
11. Following Docker command: `docker push user_name/repository_name` is used to:
- a) Activate default VM machine
 - b) Push changes done in a docker image into Docker Hub.
 - c) Build an image
 - d) Commit changes done in a Docker image.
12. The markup language used to write Docker configuration files is:
- a) JSON
 - b) YAML
 - c) XML
 - d) HTML
13. You can't create multiple containers from the same image in the docker
- a) True
 - b) False
14. Can we remove a paused container from docker?
- a) Yes
 - b) No
15. Is docker image OS dependent?
- a) Yes
 - b) No
16. How do you map a host port to the container port?
- a) `docker run -i : imagename`
 - b) `docker run -p 5000:5000 flask_app:1.0`
 - c) `docker run --expose 5000:5000 flask_app:1.0`
 - d) `docker log <container_name>`

Question # 2

[6+6=12 Marks] [C1, C3]

- a) How do you differentiate “containerization” and “virtualization”? [6 Marks]
- b) What are Docker Container, Docker Image, and Docker hub? [6 Marks]

Question # 3

[4+4+4=12 Marks] [C2, C3]

- a) Will cloud overtake the use of Containerization? [4 Marks]
- b) What is Hypervisor? [4 Marks]
- c) Can we use JSON instead of YAML for my compose file in Docker? If yes, then write the docker command for the same. [4 Marks]