| GANPAT UNIVERSITY | | | |
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| **FACULTY OF COMPUTER APPLICATIONS** | | | |
| **Program** | MCA | **Branch/ Spec.** | Computer Application |
| **Semester** | III | **Lab Practical** | 1 (Unit III) Docker |
| **Subject Code** | P13A3DOP | **Subject Name** | DevOps |
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Unit III

1. Discuss the following docker commands with example:
    a. docker images
    b. docker pull
    c. docker run
    d. docker container ls
    e. docker container ls –a
    f. docker search
    g. docker logs container_id
    h. docker logs –f container_id
    i. docker container stop
    j. docker image inspect image_id
    k. docker image remove *image_name*
    l. docker container pause container_id
    m. docker container uppause container_id
    n. docker container kill container_id
    o. docker container prune
    p. docker system
    q. docker system df
    r. docker system event
    s. docker system prune –a
    t. docker stats
    u. docker stats container_id
    v. docker system info
2. Pull images of hello-world-java, hello-world-python, hello-world-nodejs. Create containers with them and check for response using run docker command.
3. Update above program to create three containers in detached mode.
4. Demonstrate the docker image history command for mysql with output.
5. Demonstrate the docker inspect image_id command with example.
6. Demonstrate the docker stop and docker kill commands with example.
7. Demonstrate the docker container prune command.
8. Demonstrate difference between docker container ls and docker container ls –a command.

9. Demonstrate the docker system event command with proper example.
10. Demonstrate the constraint on docker container memory usage.
11. Demonstrate the constraint on docker container cpu usage.
12. Create your own docker image with respect to hello-world-python using dockerfile and push it in your own repository on hub.docker.com.
13. Create your own docker image with respect to hello-world-java using dockerfile and push it in your own repository on hub.docker.com.
14. Create your own docker image with respect to hello-world-nodejs using dockerfile and push it in your own repository on hub.docker.com.
15. Demonstrate currency-conversion-service and currency-exchange-service and link these two services in bridge network.
16. Demonstrate currency-conversion-service and currency-exchange-service and link these two services in bridge network and link them in custom network.
17. Use the docker compose to simplify the problem in question 16.
18. Demonstrate following docker compose commands:
    a. docker-compose events
    b. docker-compose config
    c. docker-compose images
    d. docker-compose ps
    e. docker-compose top
    f. docker-compose pause
    g. docker-compose unpause
    h. docker-compose stop
    i. docker-compose kill