Docker container:-

To uninstall docker which are pre install:-

**sudo apt-get remove docker docker-engine docker.io**

Update system by sudo apt-get install

Of some system command :- **sudo apt-get install docker-ce**

If this not work then:-

To get help command:- **docker install it will dive correct command**

To install docker- **sudo apt install docker.io**

**For another packages:- Sudo snap install docker**

To check weather the docker is install or not we pull docker image from docker hub by command

**sudo docker run hello-world**

To check it is pulled or not:- **sudo docker images**

It show docker images

To see all pull images:-

**sudo docker ps -a**

**Experiment 28-**

**Write a python program to perform arithmetic operations and create Docker image accordingly.**

**Install the docker from above process.**

**Step 1**:- Create a python file containing all arithmetic operations. Name of file must be “**calculator.py**”

**Step 2**: - Now create the Docker file by name “**Dockerfile”.**

Add following content in it that file

**# Dockerfile**

**# Use an official Python runtime as a parent image**

**FROM python:3.8**

**# Set the working directory to /app**

**WORKDIR /app**

**# Copy the current directory contents into the container at /app**

**COPY . /app**

**# Install any needed packages specified in requirements.txt**

**RUN pip install --no-cache-dir -r requirements.txt**

**# Make port 80 available to the world outside this container**

**EXPOSE 80**

**# Define environment variable**

**ENV NAME World**

**# Run calculator.py when the container launches**

**CMD ["python", "calculator.py"]**

**Step 3:-** Create a requirement file for some additional requirements for the python script use by us.

The name of file must be  **“requirement.txt”**

**Step 4:-** Build the docker image by running the below command but condition is that all the file calculator,Docker,requirement must be in a single folder.

**docker build -t calculator-app .**

**Step 4:-** Now we run the docker image.

**docker run -it calculator-app**

**Experiment Number 29:-**

**Run the Docker container with the created image .**

**Step 1:-** There is no predefined container then create the container from above process (Experiment and create the docker image).

**Step 2:-** To run the docker image use command

**“docker run -it calculator-app”**

Use your own file name instead of a calculator.

**Experiment No 32**

**Run the Docker container from recently created image and run the container at port number 80 in the host system.**

**Step 1:-** Create the python file by name app.py

from flask import Flask

app = Flask(\_\_name\_\_)

@app.route("/")

def hello():

return "Hello, Docker!"

if \_\_name\_\_ == "\_\_main\_\_":

app.run(host='0.0.0.0', port=80)

**Step 2:-**

**Create the docker file by name Dockerfile**

# Use an official Python runtime as a parent image

FROM python:3.6

# Set the working directory to /app

WORKDIR /app

# Copy the current directory contents into the container at /app

COPY . /app

# Install any needed packages specified in requirements.txt

RUN pip install -r requirements.txt

# Make port 80 available to the world outside this container

EXPOSE 80

# Define environment variable

ENV NAME World

# Run app.py when the container launches

CMD ["python", "app.py"]

**Step 4:-** Create the file by name **“requirements.txt”**

In file type **“flask”**

flask

**Sep 5:-** Run the command

**“sudo docker build -t flask-app .”**

**Step 6:-** Run the command to open on port 80:80

**sudo docker run -p 80:80 flask-app**

**In terminal of vs code it give one http:// address copy it and run it on browser**

**Example http://172.17.0.2:80/**

**Experiment 33:-**

**Create a simple Hello-world python flask application and create the docker image of that Flask application.**

**Repeat the above experiment again because it is done by flask only.**

**Experiment 34:-**

**Run the docker container from recently created image and run that docker container to 5000 port of host system.**

**Step 1:- Use the command to run**

**sudo docker build -t flask-app .**

**Step 2:- Ue this command to run on 5000**

**sudo docker run -p 5000:80 flask-app**

**Then see in terminal the https:// link copy it and use it on the browser.**

**Experiment 35:-**