Practical-7

AIM: Deployment of ML project using Streamlit.

Task 1: Ensure that the required libraries are installed
   streamlit==1.10.0
   pandas==1.2.3
   scikit-learn==0.24.1

Task 2: Create the docker file using the steps described in theory material.

a) Create a Dockerfile :

```
FROM python:3.8-slim
WORKDIR /app
COPY . /app
RUN pip install --no-cache-dir -r requirements.txt
EXPOSE 80
ENV NAME World
CMD ["gunicorn", "--bind", "0.0.0.0:80", "app:app"]
```

b) Create a requirement.txt file :

```
scikit-learn==0.24.2
pandas==1.3.3
numpy==1.21.2
flask==2.1.0
gunicorn==20.1.0
```

c) Create a Streamlit file :

d) Create a Docker Image :

Check the image is created or not :

```
PS D:\Desktop\stream> docker images
REPOSITORY      TAG        IMAGE ID        CREATED            SIZE
stream          latest     e56ed293e3b7    16 minutes ago     495MB
```

Task 4: Run the docker container to execute the docker image and host the machine learning model using streamlit app server.

```
PS D:\Desktop\stream> docker run -p 8080:8501 stream

Collecting usage statistics. To deactivate, set browser.gatherUsageStats to False.


  You can now view your Streamlit app in your browser.

  Network URL: http://172.17.0.4:8501
  External URL: http://103.238.106.204:8501
```