

## Assignment - 14

Ques 1 : Explain the below DockerFile

```
FROM nvidia/cuda:11.4.2-cudnn8-runtime-ubuntu20.04

#set up environment
RUN apt-get update && apt-get install --no-install-recommends --no-install-suggests -y curl
RUN apt-get install unzip
RUN apt-get -y install python3
RUN apt-get -y install python3-pip

# Copy our application code
WORKDIR /var/app

# . Here means current directory.
COPY . .

RUN pip3 install --no-cache-dir -r requirements.txt
RUN python3 download_HF_Question_Generation_summarization.py

ENV LC_ALL=C.UTF-8
ENV LANG=C.UTF-8

EXPOSE 80

# Start the app
CMD ["gunicorn", "-b", "0.0.0.0:80", "app:app", "--workers", "1", "-k", "uvicorn.workers.UvicornWorker"]
```

### Answer :-

**nvidia/cuda:10.2-cudnn8-runtime-ubuntu20.04** :- This is the base

**RUN apt-get update && apt-get install -y unzip** :- This command updates the package index and installs the unzip utility.

**RUN apt-get -y install python3** :- This command installs Python 3.

**RUN apt-get -y install python3-pip** :- This command installs pip, which is the package installer for Python.

**WORKDIR /var/app** :- This command sets the working directory of the container to /var/app.

**COPY . .** :- This command copies the application code from the host machine to the container.

**RUN pip3 install** :- This command installs the Python dependencies required by the application.

**RUN python3 download\_HF\_Question\_Generation\_summarization.py** :- This command downloads a pre-trained Hugging Face model for question generation and summarization.

**ENV LC\_ALL=C.UTF-8** :- This command sets the LC\_ALL environment variable to C.UTF-8.

**ENV LANG=C.UTF-8** :- This command sets the LANG environment variable to C.UTF-8.

**EXPOSE** :- This command exposes the default port (80) that the application listens on.

**CMD ["gunicorn", "-w", "5", "-b", "0.0.0.0:80", "app:app"]** :- This command starts the application using the Gunicorn web server, with 5 worker processes and listening on all network interfaces on port 80.