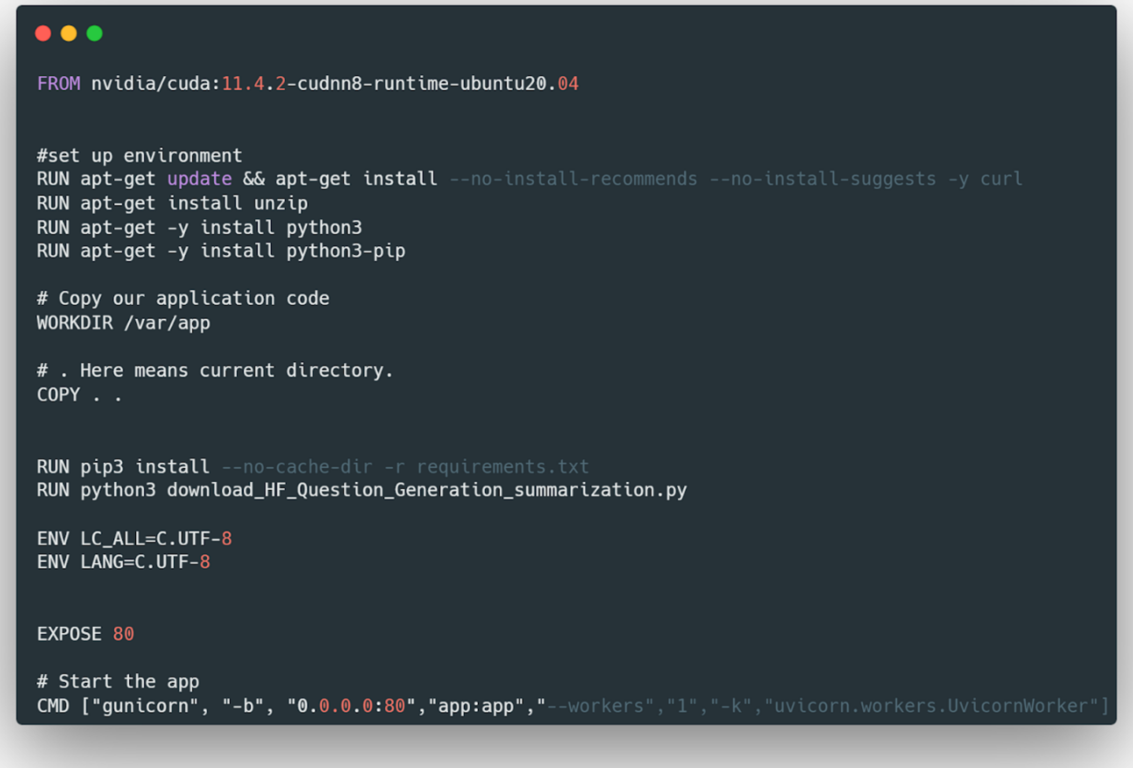
Assignment – 14

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"]
```

1)Specifies the base image to use for the new image

-This is the pre-built image provided by NVIDIA and contains the NVIDIA CUDA Toolkit 11.4.2 and the NVIDIA cuDNN library version 8 as well as a runtime version of ubuntu 20.04.

2-5) Executes the command in the command line during the build process

-The first RUN command updates the package list on the container to ensure that the latest version of each package is installed.
-The next RUN command installs the unzip package, which is used for extracting files from ZIP archives.
-The third RUN command installs the Python 3 interpreter, and the fourth RUN command installs the Python 3 package manager pip3
-These packages are necessary for running a Python 3 application in the container.
-The -y option is used to automatically answer "yes" to prompts during the installation process.

6)COPY ..
-Means current directory

7)
-RUN command installs packages using pip3
-RUN command runs a Python 3 script to download additional resources required for the application.
- Next two ENV commands set environment variables LC_ALL and LANG to C.UTF-8.
-The EXPOSE command specifies the network ports that the application running in the container listens on. In this case, the application listens on port 80.

8)
CMD specifies when a command to be run when a container is created from the image