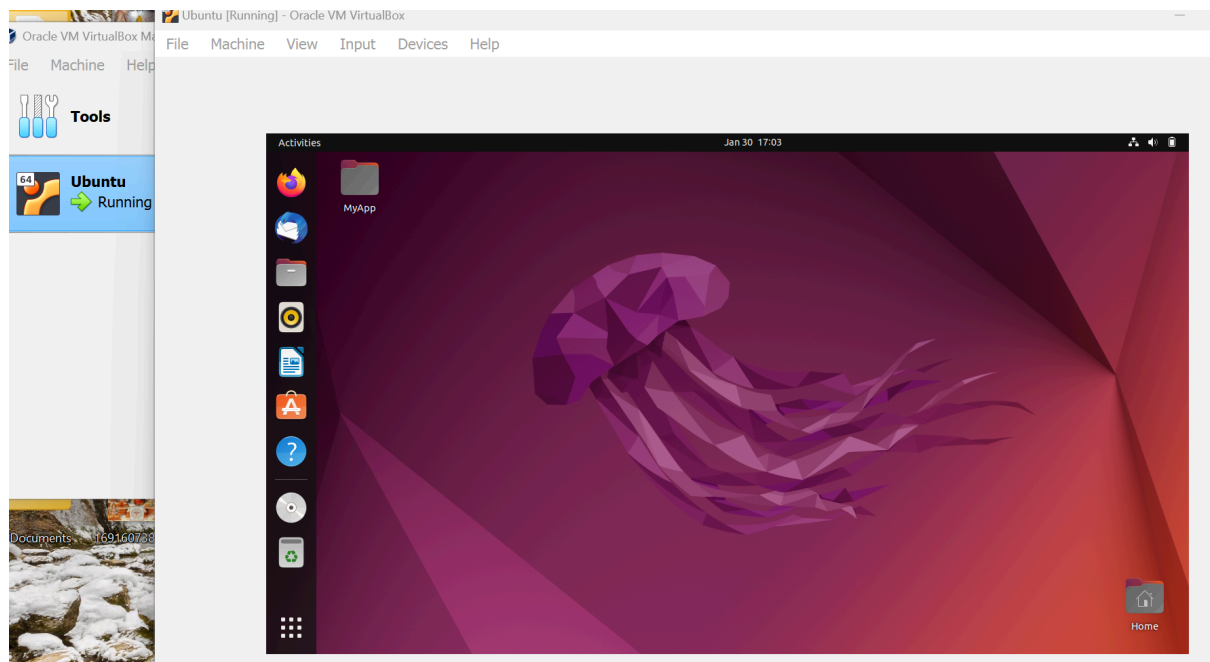
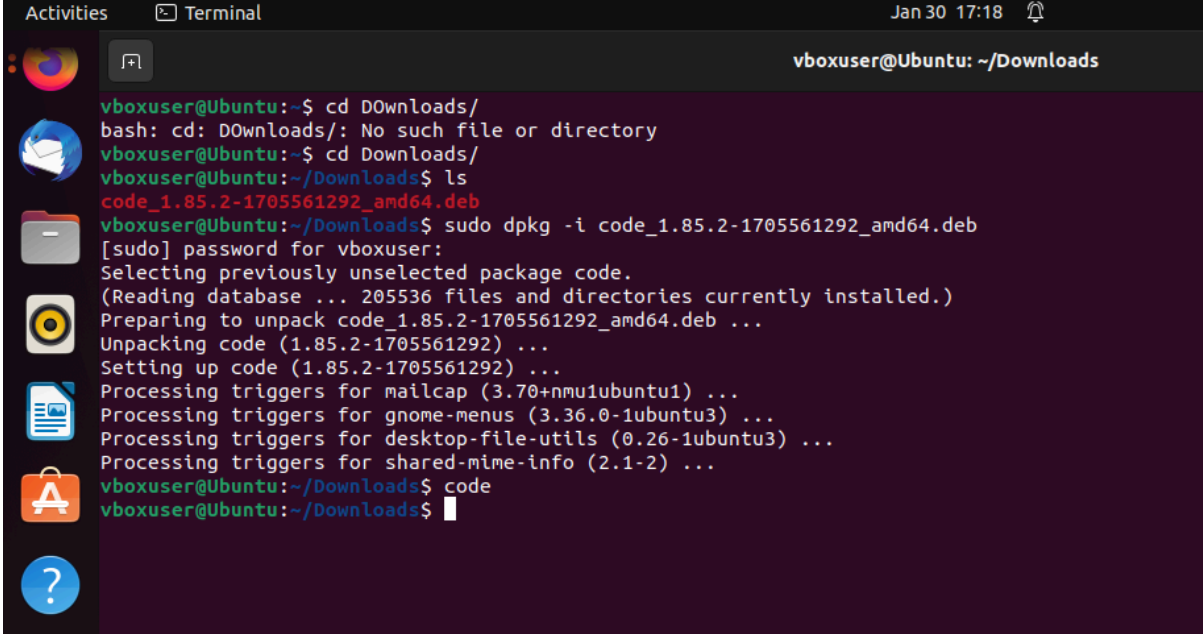


1. Host a Ubuntu Virtual Machine using Oracle VM Virtual Box. (5 marks)

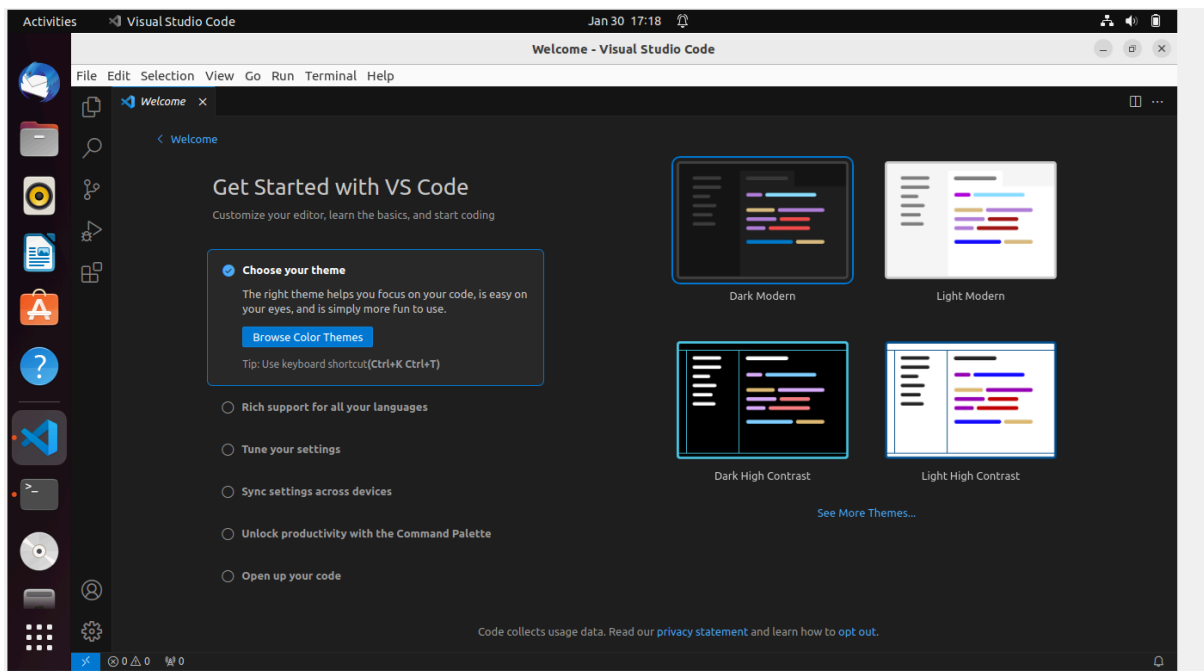


2. Set up Visual Studio code on Ubuntu VM. (5 marks)



The terminal window shows the user navigating to the Downloads directory and installing the Visual Studio Code package. The user enters the command `cd Downloads/`, which fails with an error. They then enter `ls` to list the files, showing `code_1.85.2-1705561292_amd64.deb`. Next, they run `sudo dpkg -i code_1.85.2-1705561292_amd64.deb`, which prompts for a password and shows the progress of unpacking and setting up the package. Finally, they enter `code` to launch the application.

```
vboxuser@Ubuntu:~$ cd Downloads/
bash: cd: DOWnloads/: No such file or directory
vboxuser@Ubuntu:~$ cd Downloads/
vboxuser@Ubuntu:~/Downloads$ ls
code_1.85.2-1705561292_amd64.deb
vboxuser@Ubuntu:~/Downloads$ sudo dpkg -i code_1.85.2-1705561292_amd64.deb
[sudo] password for vboxuser:
Selecting previously unselected package code.
(Reading database ... 205536 files and directories currently installed.)
Preparing to unpack code_1.85.2-1705561292_amd64.deb ...
Unpacking code (1.85.2-1705561292) ...
Setting up code (1.85.2-1705561292) ...
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...
Processing triggers for shared-mime-info (2.1-2) ...
vboxuser@Ubuntu:~/Downloads$ code
vboxuser@Ubuntu:~/Downloads$
```



3. Set up Python. (5 marks)

```
vboxuser@Ubuntu:~$ sudo apt update
[sudo] password for vboxuser:
Hit:1 http://packages.microsoft.com/repos/code stable InRelease
Hit:2 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:3 https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu jammy InRelease
Hit:4 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
461 packages can be upgraded. Run 'apt list --upgradable' to see them.
vboxuser@Ubuntu:~$ sudo apt install software-properties-common
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  systemd-hwe-hwdb
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  python3-software-properties software-properties-gtk
The following packages will be upgraded:
  python3-software-properties software-properties-common software-properties-gtk
3 upgraded, 0 newly installed, 0 to remove and 458 not upgraded.
Need to get 114 kB of archives.
After this operation, 0 B of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 software-properties-common 0.99.24-1ubuntu0.22.04.1 [114 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 software-properties-gtk 0.99.24-1ubuntu0.22.04.1 [114 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 python3-software-properties 0.99.24-1ubuntu0.22.04.1 [114 kB]
Fetched 336 kB in 1s (336 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Processing triggers for libglib2.0-0:amd64 (2.72.1-1) ...
Processing triggers for man-db (2.10.2-1) ...
vboxuser@Ubuntu:~$ sudo add-apt-repository ppa:deadsnakes/ppa
Repository: 'deb https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu/ jammy main'
Description:
This PPA contains more recent Python versions packaged for Ubuntu.

Disclaimer: there's no guarantee of timely updates in case of security problems or other
otherwise-critical environment (say, on a production server), you do so at your own risk.

Update Note
=====
Please use this repository instead of ppa:fkruhl/deadsnakes.

Reporting Issues
=====
Issues can be reported in the master issue tracker at:
https://github.com/deadsnakes/issues/issues

Supported Ubuntu and Python Versions
=====
```

```
Reading package lists... Done
vboxuser@Ubuntu:~$ sudo apt install python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  systemd-hwe-hwdb
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  libpython3.10 libpython3.10-minimal libpython3.10-stdlib python3.10-minimal python3.10-venv
Suggested packages:
  python3.10-doc binfmt-support
The following packages will be upgraded:
  libpython3.10 libpython3.10-minimal libpython3.10-stdlib python3.10 python3.10-minimal
6 upgraded, 0 newly installed, 0 to remove and 452 not upgraded.
Need to get 7,364 kB of archives.
After this operation, 3,072 B disk space will be freed.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 python3.10-venv 3.10.12-1~22.04.3 amd64 deb
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libpython3.10-minimal 3.10.12-1~22.04.3 amd64 deb
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 python3.10-minimal 3.10.12-1~22.04.3 amd64 deb
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libpython3.10-stdlib 3.10.12-1~22.04.3 amd64 deb
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 python3.10-minimal 3.10.12-1~22.04.3 amd64 deb
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libpython3.10-minimal 3.10.12-1~22.04.3 amd64 deb
Fetched 7,364 kB in 4s (1,791 kB/s)
(Reading database ... 206980 files and directories currently installed.)
Preparing to unpack .../0-python3.10-venv_3.10.12-1~22.04.3_amd64.deb
```

```
vboxuser@Ubuntu:~$ python3 --version
Python 3.10.12
vboxuser@Ubuntu:~$
```

4. Clone this Github repository

<https://github.com/Vikas098766/Microservices.git> (1 mark)

```
train.py - Microservices - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
MICROSERVICES
  code_model_training
    train.py
  data
    breast_cancer.csv
  model
    model_binary.dat.gz
  ms
    __init__.py
    functions.py
  tests
    example_calls.txt
  app.py
  README.md
  requirements.txt
code_model_training > train.py > ...
1 # Import packages
2 from sklearn.ensemble import VotingClassifier
3 from sklearn.model_selection import train_test_split
4 from sklearn.linear_model import LogisticRegression
5 from sklearn.tree import DecisionTreeClassifier
6 from sklearn.svm import SVC
7 from sklearn.preprocessing import MinMaxScaler
8 from sklearn.impute import SimpleImputer
9 from sklearn.pipeline import Pipeline
10 from sklearn.metrics import ConfusionMatrixDisplay
11 import matplotlib.pyplot as plt
12 import pandas as pd
13 import joblib
14 import gzip
15
16
17 # Load the dataset
18 data = pd.read_csv('data/breast_cancer.csv')
19
20 # Preprocess dataset
21 data = data.set_index('id')
22 del data['Unnamed: 32']
23 data['diagnosis'] = data['diagnosis'].replace(['B', 'M'], [0, 1])
24
25 # Split into train and test set, 80%-20%
26 y = data.pop('diagnosis')
27 X = data
28 X_train, X_test, y_train, y_test = train_test_split(X, y, test_si
29
```

5. Create a Virtual Environment. (1 mark)

```
vboxuser@Ubuntu: ~/Desktop/Microservices

vboxuser@Ubuntu:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
vboxuser@Ubuntu:~$ cd Desktop/Microservices/
vboxuser@Ubuntu:~/Desktop/Microservices$ python3 -m venv venv
vboxuser@Ubuntu:~/Desktop/Microservices$ source venv/bin/activate
(venv) vboxuser@Ubuntu:~/Desktop/Microservices$
```

6. Install the dependencies from requirements.txt file. (1 mark)

```
File Edit Selection View Go Run Terminal Help

EXPLORER
MICROSERVICES
  code_model_training
    train.py
  data
    breast_cancer.csv
  model
    model_binary.dat.gz
  ms
    __init__.py
    functions.py
  tests
    example_calls.txt
  venv
    app.py
    README.md
    requirements.txt

PROBLEMS 12 OUTPUT DEBUG CONSOLE TERMINAL PORTS

(venv) vboxuser@Ubuntu:~/Desktop/Microservices$ pip install -r requirements.txt
Collecting click==8.0.3
  Downloading click-8.0.3-py3-none-any.whl (97 kB)
  97.5/97.5 KB 2.8 MB/s eta 0:00:00
Collecting cyclical==0.11.0
  Downloading cyclical-0.11.0-py3-none-any.whl (6.4 kB)
Collecting Flask==2.0.2
  Downloading Flask-2.0.2-py3-none-any.whl (95 kB)
  95.2/95.2 KB 4.3 MB/s eta 0:00:00
Collecting fonttools==4.28.5
  Downloading fonttools-4.28.5-py3-none-any.whl (890 kB)
  890.4/890.4 KB 8.0 MB/s eta 0:00:00
Collecting gunicorn==20.1.0
  Downloading gunicorn-20.1.0-py3-none-any.whl (79 kB)
  79.5/79.5 KB 5.5 MB/s eta 0:00:00
Collecting itsdangerous==2.0.1
  Downloading itsdangerous-2.0.1-py3-none-any.whl (18 kB)
Collecting Jinja2==3.0.3
  Downloading Jinja2-3.0.3-py3-none-any.whl (133 kB)
  133.6/133.6 KB 7.1 MB/s eta 0:00:00
Collecting joblib==1.1.0
  Downloading joblib-1.1.0-py2.py3-none-any.whl (306 kB)
  307.0/307.0 KB 7.1 MB/s eta 0:00:00
Collecting kiwisolver==1.3.2
  Downloading kiwisolver-1.3.2-cp310-cp310-manylinux_2_12_x86_64.manylinux2010_x86_64.whl (1
  1.6/1.6 MB 7.6 MB/s eta 0:00:00
Collecting MarkupSafe==2.0.1
  Downloading MarkupSafe-2.0.1-cp310-cp310-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux
  _x86_64.whl (30 kB)
Collecting matplotlib==3.5.1
  Downloading matplotlib-3.5.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (1
  11.9/11.9 MB 3.5 MB/s eta 0:00:00
Collecting numpy==1.22.0
  Downloading numpy-1.22.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (16.8
  16.8/16.8 MB 6.5 MB/s eta 0:00:00
Collecting packaging==21.3
  Downloading packaging-21.3-py3-none-any.whl (40 kB)
  40.8/40.8 KB 6.0 MB/s eta 0:00:00
```

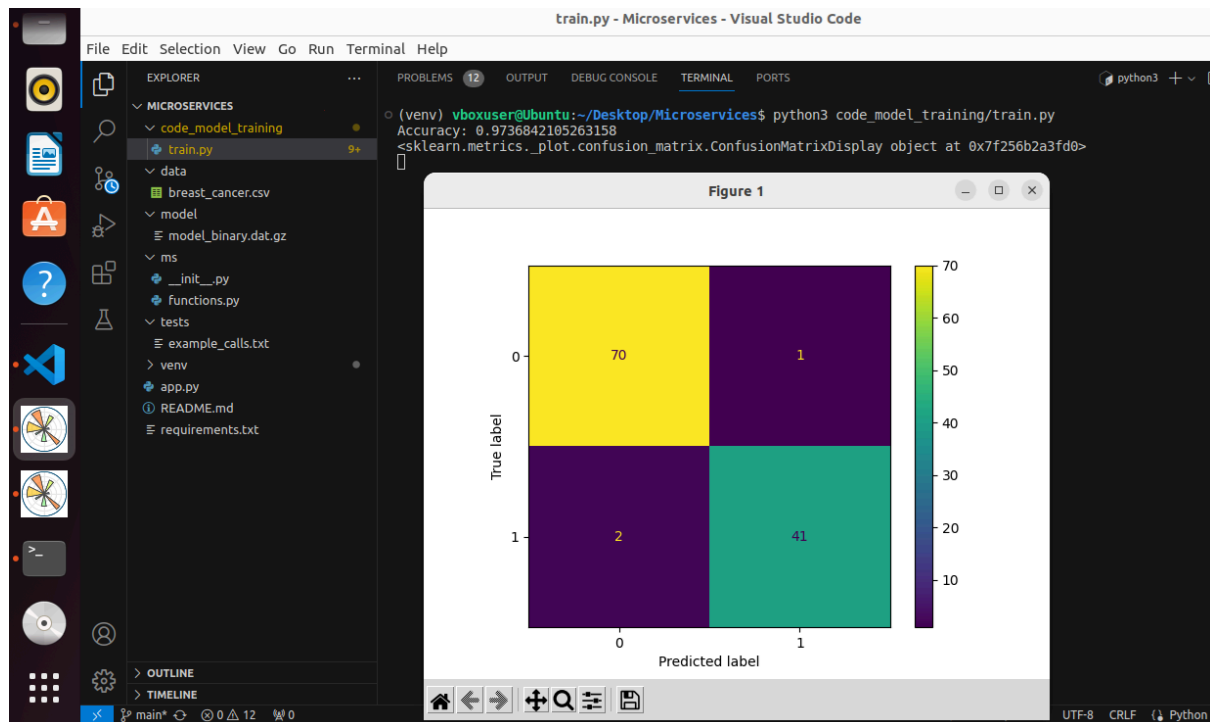
```
File Edit Selection View Go Run Terminal Help

EXPLORER
MICROSERVICES
  code_model_training
    train.py
  data
    breast_cancer.csv
  model
    model_binary.dat.gz
  ms
    __init__.py
    functions.py
  tests
    example_calls.txt
  venv
    app.py
    README.md
    requirements.txt

PROBLEMS 12 OUTPUT DEBUG CONSOLE TERMINAL PORTS

Collecting pyParsing==3.0.6
  Downloading pyParsing-3.0.6-py3-none-any.whl (97 kB)
  97.6/97.6 KB 3.6 MB/s eta 0:00:00
Collecting python-dateutil==2.8.2
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
  247.7/247.7 KB 6.7 MB/s eta 0:00:00
Collecting pytz==2021.3
  Downloading pytz-2021.3-py2.py3-none-any.whl (503 kB)
  503.5/503.5 KB 8.4 MB/s eta 0:00:00
Collecting scikit-learn==1.0.2
  Downloading scikit_learn-1.0.2-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (26.5 MB)
  26.5/26.5 MB 3.8 MB/s eta 0:00:00
Collecting scipy==1.7.3
  Downloading scipy-1.7.3-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (39.9 MB)
  39.9/39.9 MB 2.3 MB/s eta 0:00:00
Collecting six==1.16.0
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Collecting sklearn==0.0
  Downloading sklearn-0.0.tar.gz (1.1 kB)
  Preparing metadata (setup.py) ... done
Collecting threadpoolctl==3.0.0
  Downloading threadpoolctl-3.0.0-py3-none-any.whl (14 kB)
Collecting Werkzeug==2.0.2
  Downloading Werkzeug-2.0.2-py3-none-any.whl (288 kB)
  288.9/288.9 KB 6.4 MB/s eta 0:00:00
Requirement already satisfied: setuptools==3.0 in ./venv/lib/python3.10/site-packages (from gunicorn==20.1.0->-r requirements.txt (line 5)) (59.6.0)
Using legacy 'setup.py install' for sklearn, since package 'wheel' is not installed.
Installing collected packages: pytz, Werkzeug, threadpoolctl, six, pyParsing, Pillow, numpy, MarkupSafe, kiwisolver, joblib, itsdangerous, gunicorn, fonttools, cyclical, click, scipy, python-dateutil, packaging, Jinja2, scikit-learn, pandas, matplotlib, Flask, sklearn
Running setup.py install for sklearn ... done
Successfully installed Flask-2.0.2 Jinja2-3.0.3 MarkupSafe-2.0.1 Pillow-9.0.0 Werkzeug-2.0.2 click-8.0.3 cyclical-0.11.0 fonttools-4.28.5 gunicorn-20.1.0 itsdangerous-2.0.1 joblib-1.1.0 kiwisolver-1.3.2 matplotlib-3.5.1 numpy-1.22.0 packaging-21.3 pandas-1.3.5 pyParsing-3.0.6 python-dateutil-2.8.2 pytz-2021.3 scikit-learn-1.0.2 scipy-1.7.3 six-1.16.0 sklearn-0.0 threadpoolctl-3.0.0
(venv) vboxuser@Ubuntu:~/Desktop/Microservices$
```


7. Train and save the model. (2 marks)



8. Test the Flask web application. (5 marks)

The screenshot shows the Visual Studio Code interface with the 'train.py' file open in the editor. The terminal displays the command `source venv/bin/activate` and `flask run -p 5000`. The output shows the Flask application running on `http://127.0.0.1:5000/` and lists several incoming requests, including `GET / HTTP/1.1`, `GET /favicon.ico HTTP/1.1`, `GET /health HTTP/1.1`, and `GET /info HTTP/1.1`.

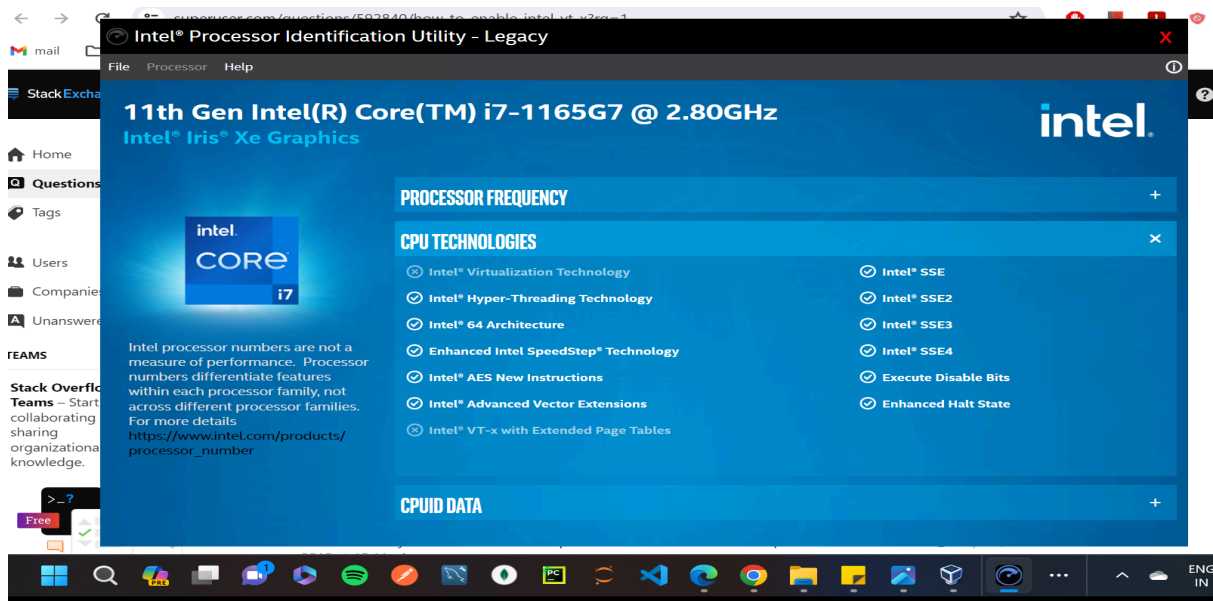
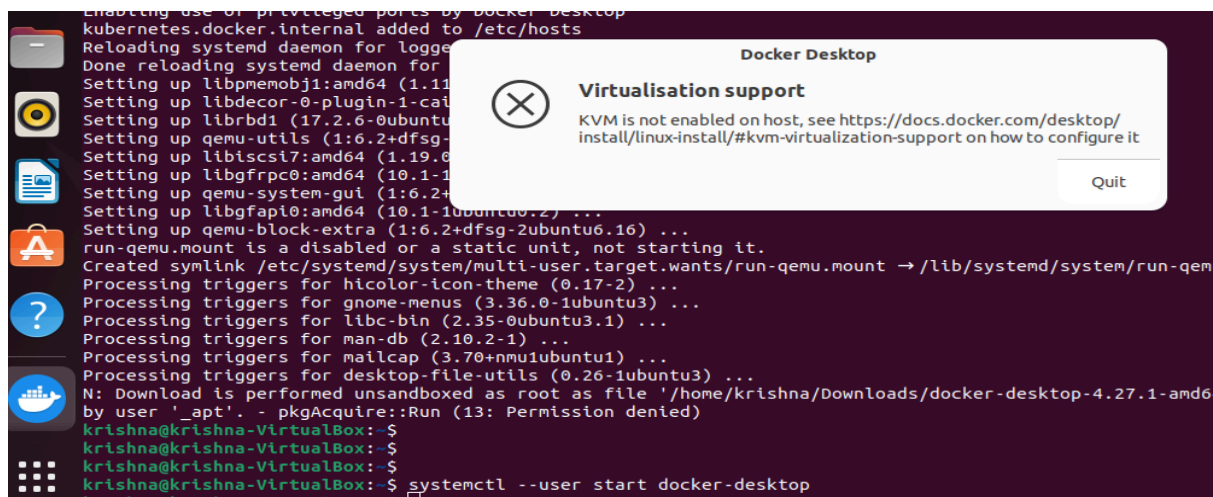


9. Test the application and make predictions using the example calls available in the folder /tests. (5 marks)

```
vboxuser@Ubuntu: ~  
vboxuser@Ubuntu:~$ curl -X GET http://localhost:5000/info  
{ "name": "Breast Cancer Wisconsin (Diagnostic)", "version": "v1.0.0" }  
vboxuser@Ubuntu:~$ curl -X GET http://localhost:5000/health  
ok  
vboxuser@Ubuntu:~$  
vboxuser@Ubuntu:~$ curl -d '{"radius_mean": 17.99, "texture_mean": 10.38, "perimeter_mean": 122.8, "area_mean": 1001.0, "smoothness_mean": 0.1184, "compactness_mean": 0.2776, "concavity_mean": 0.3001, "concave points_mean": 0.1471, "symmetry_mean": 0.2419, "fractal_dimension_mean": 0.07871, "radius_se": 1.095, "texture_se": 0.9053, "perimeter_se": 8.589, "area_se": 153.4, "smoothness_se": 0.006399, "compactness_se": 0.04904, "concavity_se": 0.05373, "concave points_se": 0.01587, "symmetry_se": 0.03003, "fractal_dimension_se": 0.006193, "radius_worst": 25.38, "texture_worst": 17.33, "perimeter_worst": 184.6, "area_worst": 2019.0, "smoothness_worst": 0.1622, "compactness_worst": 0.0656, "concavity_worst": 0.7119, "concave points_worst": 0.2654, "symmetry_worst": 0.4601, "fractal_dimension_worst": 0.1189}]' -H "Content-Type: application/json" -X POST http://0.0.0.0:5000/predict  
{ "label": "M", "prediction": 1, "status": 200 }  
vboxuser@Ubuntu:~$
```

10. Create a docker image containing everything needed to run the application. (10 marks)

Note: My PC was not enabling KVM as its hardware doesn't support Virtualization/VT-x/Extended Page Tables.



Alternatively: Hence I did the docker part (10th and 11th tasks) in the Windows environment on my PC by using Docker Desktop.

```
Dockerfile U  compose.yaml U X
compose.yaml
1  # Comments are provided throughout this file to help you get started.
2  # If you need more help, visit the Docker compose reference guide at
3  # https://docs.docker.com/go/compose-spec-reference/
4
5  # Here the instructions define your application as a service called "server".
6  # This service is built from the Dockerfile in the current directory.
7  # You can add other services your application may depend on here, such as a
8  # database or a cache. For examples, see the Awesome Compose repository:
9  # https://github.com/docker/awesome-compose
10 services:
11   server:
12     build:
13       context: .
14     ports:
15       - 5000:5000
16
17   # The commented out section below is an example of how to define a PostgreSQL
18   # database that your application can use. `depends_on` tells Docker Compose to
19   # start the database before your application. The `db-data` volume persists the
20   # database data between container restarts. The `db-password` secret is used
21   # to set the database password. You must create `db/password.txt` and add
22   # a password of your choosing to it before running `docker compose up`.
23   #   depends_on:
24   #     db:
25   #       condition: service_healthy
26   #   db:
27   #     image: postgres
28   #     restart: always
29   #     user: postgres
30   #     secrets:
31   #       - db-password
32   #     volumes:
33   #       - db-data:/var/lib/postgresql/data
34   #     environment:
```

```
Dockerfile U X  compose.yaml U
Dockerfile > ...
2
3  # Comments are provided throughout this file to help you get started.
4  # If you need more help, visit the Dockerfile reference guide at
5  # https://docs.docker.com/go/dockerfile-reference/
6
7  # Want to help us make this template better? Share your feedback here: https://forms.gle/ybq9Krt8jtBL3iCk7
8
9  # Base image
10 FROM python:3.10
11
12 # Set working directory
13 WORKDIR /app
14
15 # Copy files
16 COPY app.py /app
17 COPY requirements.txt /app
18 COPY model /app/model
19 COPY ms /app/ms
20
21 # Install dependencies
22 RUN pip3 install -r requirements.txt
23
24 COPY . /app
25
26 # Expose the port that the application listens on.
27 EXPOSE 5000
28
29 # Run the application.
30 ENTRYPOINT ["gunicorn", "-b", "0.0.0.0:5000", "--access-logfile", "-", "--error-logfile", "-", "--timeout", "120"]
31 CMD ["app:app"]
32 # RUN python3 ./model/code_model_training/train.py
33 # CMD python3 ./app.py --host 0.0.0.0
```



```
> __pycache__
  _init_.py M
  functions.py
  tests
    example_calls.txt
  .dockerignore U
  app.py
  compose.yaml U
  Dockerfile U
  README.Docker.md U
  README.md
  requirements.txt

OUTLINE
TERRACORD

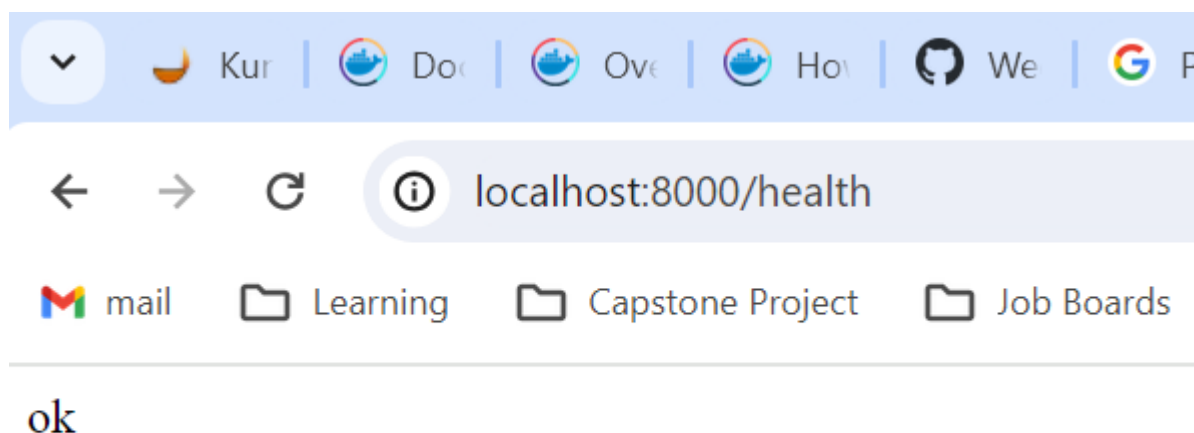
What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices> docker build -t microservices_docker_flask .
[+] Building 2.2s (15/15) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 910B
=> resolve image config for docker.io/docker/dockerfile:1
=> CACHED docker-image://docker.io/docker/dockerfile:1@sha256:ac85f380a63b13dfcefa89046420e1781752bab202122f8f50032ed
=> [internal] load metadata for docker.io/library/python:3.10
=> [internal] load .dockerignore
=> => transferring context: 667B
=> [1/8] FROM docker.io/library/python:3.10@sha256:b54e76c629a98430ac9c92e4f6bdeb672396a895b44a85022d12ee2f7239144
=> [internal] load build context
=> => transferring context: 484B
=> CACHED [2/8] WORKDIR /app
=> CACHED [3/8] COPY app.py /app
=> CACHED [4/8] COPY requirements.txt /app
=> CACHED [5/8] COPY model /app/model
=> CACHED [6/8] COPY ms /app/ms
=> CACHED [7/8] RUN pip3 install -r requirements.txt
=> CACHED [8/8] COPY . /app
=> exporting to image
=> => exporting layers
=> => writing image sha256:0cba6494be86ccf4653744f83998460e7cabf49f9acefb3b117b9cb346af9350
=> => naming to docker.io/library/microservices_docker_flask

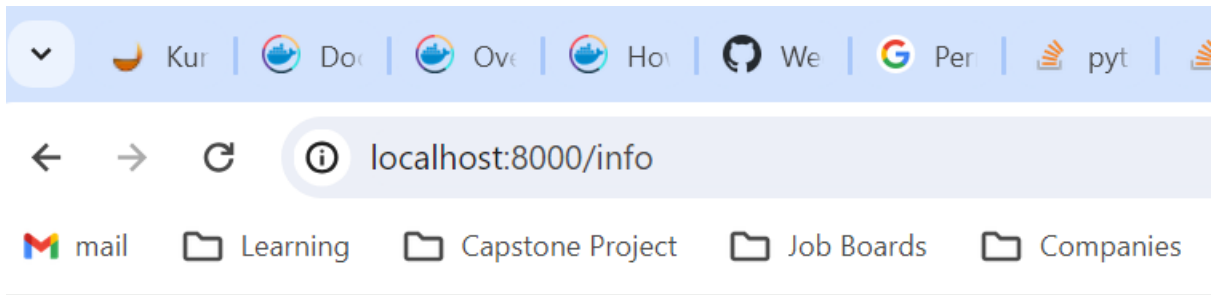
View build details: docker-desktop://dashboard/build/default/default/tn2xqewi85wc9axscbwvmupc3

What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
```

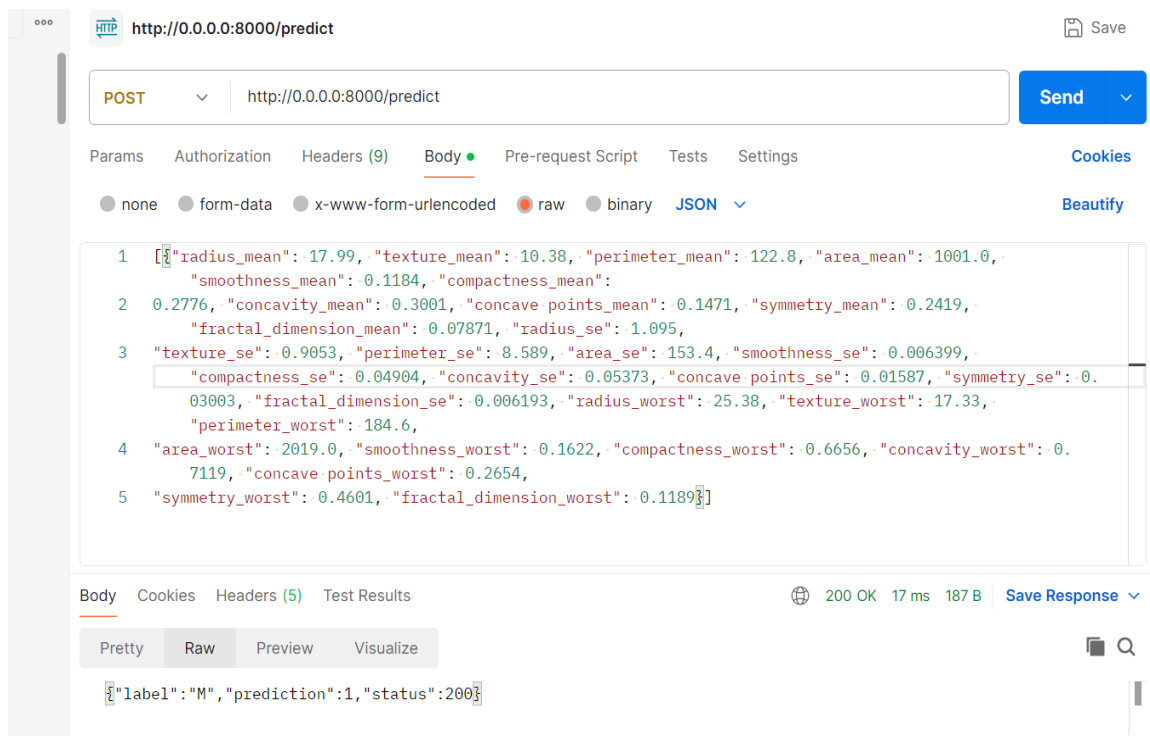
11.Run the containerized application as a prediction service and test it locally by passing some example calls and get the prediction. (10 marks)

```
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices>
PS C:\Users\Munjala Hari Krishna\Desktop\Microservices> docker run -p 8000:5000 microservices_docker_flask
[2024-02-22 12:39:46 +0000] [1] [INFO] Starting gunicorn 20.1.0
[2024-02-22 12:39:46 +0000] [1] [INFO] Listening at: http://0.0.0.0:5000 (1)
[2024-02-22 12:39:46 +0000] [1] [INFO] Using worker: sync
[2024-02-22 12:39:46 +0000] [7] [INFO] Booting worker with pid: 7
172.17.0.1 - - [22/Feb/2024:12:40:08 +0000] "GET /info HTTP/1.1" 200 67 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/121.0.0.0 Safari/537.36"
172.17.0.1 - - [22/Feb/2024:12:40:08 +0000] "GET / HTTP/1.1" 404 232 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/121.0.0.0 Safari/537.36"
172.17.0.1 - - [22/Feb/2024:12:40:09 +0000] "GET /info HTTP/1.1" 200 67 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/121.0.0.0 Safari/537.36"
172.17.0.1 - - [22/Feb/2024:12:40:23 +0000] "GET /info HTTP/1.1" 200 67 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/121.0.0.0 Safari/537.36"
172.17.0.1 - - [22/Feb/2024:12:40:28 +0000] "GET /health HTTP/1.1" 200 2 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/121.0.0.0 Safari/537.36"
[]
```





```
{"name": "Breast Cancer Wisconsin (Diagnostic)", "version": "v1.0.0"}
```



Note: All the commands for each task are in the attached screenshots itself.