



COVID-19 Vaccines Analysis



Name-D.SACHIN KUMAR

Gmail-sachinkumarmtp333@gmail.com

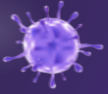
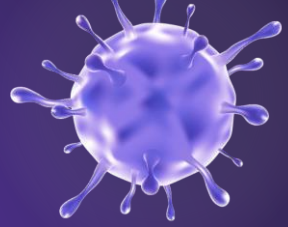
Collage name-Sri Ranganathar Institute of Engineering and
Technology(SRIET)

Course Name-Applied data science



Phase-III

Development Part 1

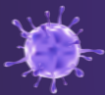




In this part you will begin building your project by loading and preprocessing the dataset.

Begin conducting the Covid-19 vaccines analysis by collecting and preprocessing the data.

Collect and preprocess the Covid-19 vaccine data for analysis.



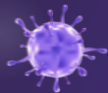
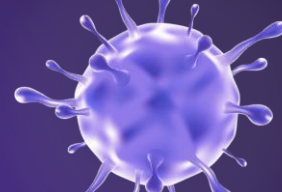


Fig.1

Describe the Data



Home Covid 19 vaccines analysis

localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data

jupyter Covid 19 vaccines analysis Last Checkpoint: 14 minutes ago

File Edit View Run Kernel Settings Help Trusted

JupyterLab Python 3 (ipykernel)

Describe the Data

```
[6]: data.describe()
```

	total_vaccinations	people_vaccinated	people_fully_vaccinated	daily_vaccinations_raw	daily_vaccinations	total_vaccinations_per_hundred	people_vaccinated_per_hundred
count	4.360700e+04	4.129400e+04	3.880200e+04	3.536200e+04	8.621300e+04	43607.000000	41294.00
mean	4.592964e+07	1.770508e+07	1.413830e+07	2.705996e+05	1.313055e+05	80.188543	40.90
std	2.246004e+08	7.078731e+07	5.713920e+07	1.212427e+06	7.682388e+05	67.913577	29.20
min	0.000000e+00	0.000000e+00	1.000000e+00	0.000000e+00	0.000000e+00	0.000000	0.00
25%	5.264100e+05	3.494642e+05	2.439622e+05	4.668000e+03	9.000000e+02	16.050000	11.30
50%	3.590096e+06	2.187310e+06	1.722140e+06	2.530900e+04	7.343000e+03	67.520000	41.40
75%	1.701230e+07	9.152520e+06	7.559870e+06	1.234925e+05	4.409800e+04	132.735000	67.90
max	3.263129e+09	1.275541e+09	1.240777e+09	2.474100e+07	2.242429e+07	345.370000	124.70

```
[ ]:
```

HomeCovid 19 vaccines analysis

localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data

jupyter Covid 19 vaccines analysis Last Checkpoint: 14 minutes ago

FileEditViewRunKernelSettingsHelp

Trusted

JupyterLabPython 3 (ipykernel)

Describe the Data

[6]: data.describe()

[6]:

illy_vaccinations_raw	daily_vaccinations	total_vaccinations_per_hundred	people_vaccinated_per_hundred	people_fully_vaccinated_per_hundred	daily_vaccinations_per_million
3.536200e+04	8.621300e+04	43607.000000	41294.000000	38802.000000	86213.000000
2.705996e+05	1.313055e+05	80.188543	40.927317	35.523243	3257.049157
1.212427e+06	7.682388e+05	67.913577	29.290759	28.376252	3934.312440
0.000000e+00	0.000000e+00	0.000000	0.000000	0.000000	0.000000
4.668000e+03	9.000000e+02	16.050000	11.370000	7.020000	636.000000
2.530900e+04	7.343000e+03	67.520000	41.435000	31.750000	2050.000000
1.234925e+05	4.409800e+04	132.735000	67.910000	62.080000	4682.000000
2.474100e+07	2.242429e+07	345.370000	124.760000	122.370000	117497.000000

[]:



Data Describe

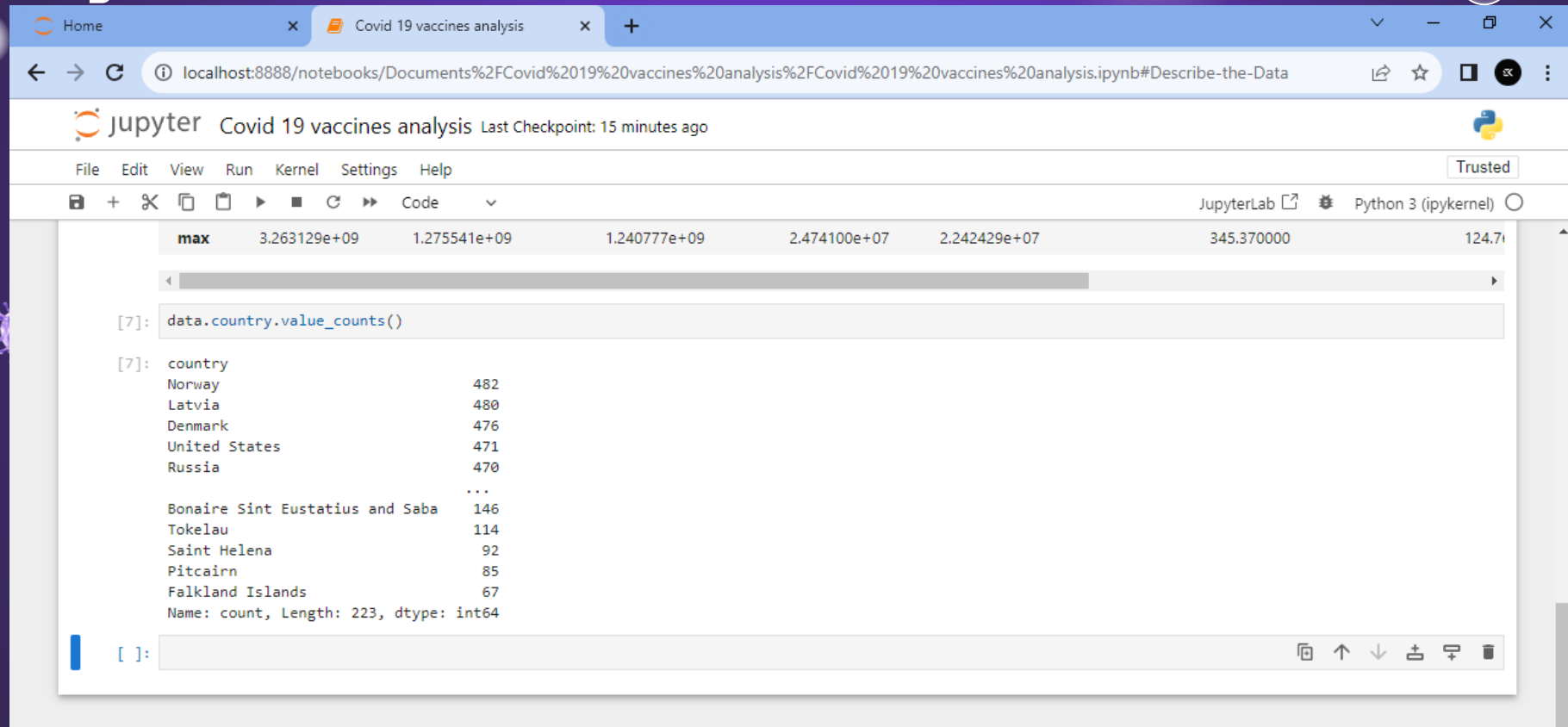
The Fig.1 is refer the Data describe of Covid -19 vaccines analysis of

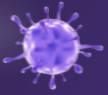
- ☐ Total_vaccinations
- ☐ People_vaccinated
- ☐ People_fully_vaccinated
- ☐ Daily_vaccinations_raw
- ☐ Vaccines
- ☐ Source_name
- ☐ Source_website

Data Describe is information that has been translated into a form that is efficient for movement or processing

Data of country and value counts

Fig.2



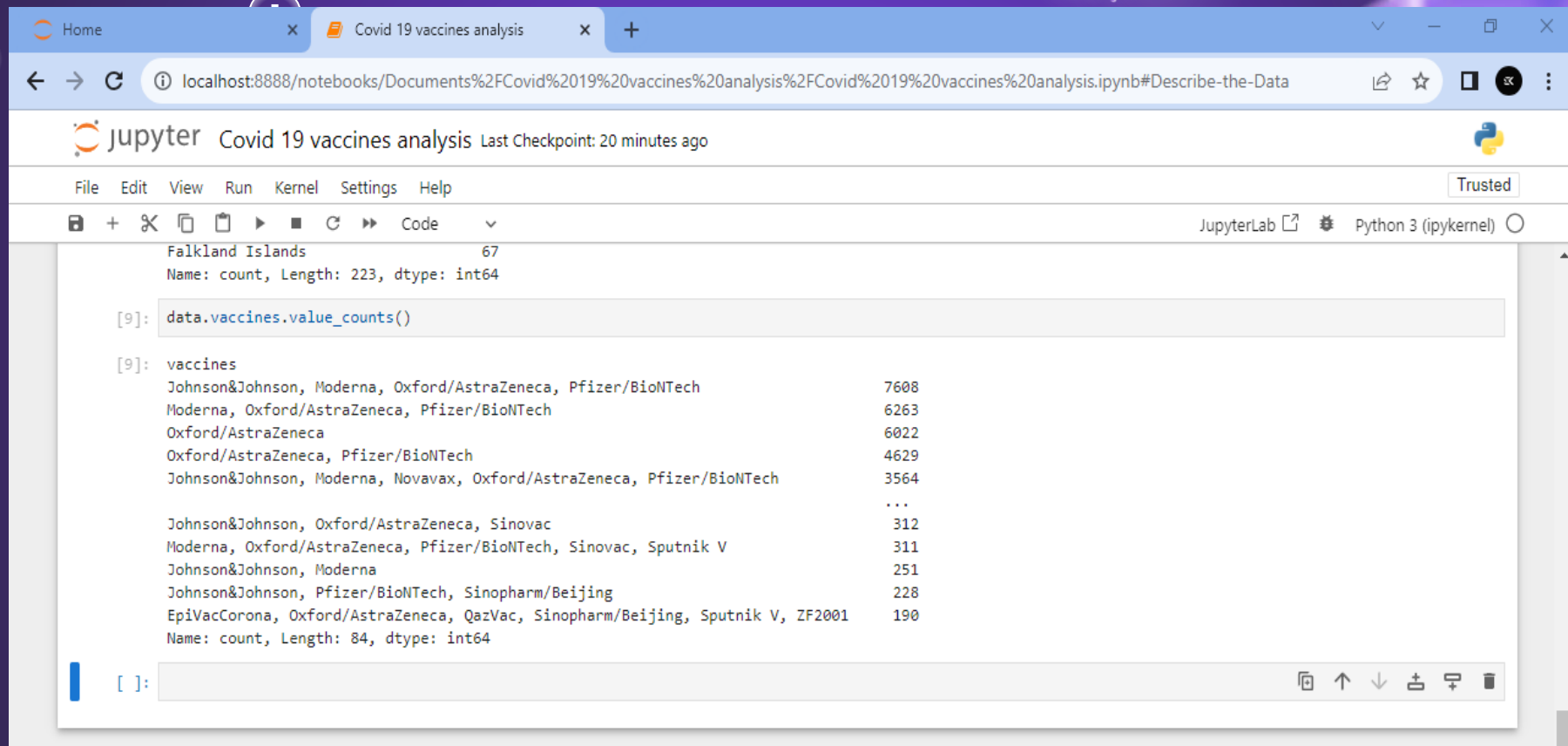


The Fig.2 is refer to the Data of country and value counts of the Covid-19 vaccines analysis because this fig.2 is have a country of the names and value of the Covid-19 counts are in this fig.2.



Fig.3

Data of vaccines and value counts



Home Covid 19 vaccines analysis

localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data

Jupyter Covid 19 vaccines analysis Last Checkpoint: 20 minutes ago

File Edit View Run Kernel Settings Help Trusted

Code

JupyterLab Python 3 (ipykernel)

```
Falkland Islands 67
Name: count, Length: 223, dtype: int64

[9]: data.vaccines.value_counts()

[9]: vaccines
Johnson&Johnson, Moderna, Oxford/AstraZeneca, Pfizer/BioNTech 7608
Moderna, Oxford/AstraZeneca, Pfizer/BioNTech 6263
Oxford/AstraZeneca 6022
Oxford/AstraZeneca, Pfizer/BioNTech 4629
Johnson&Johnson, Moderna, Novavax, Oxford/AstraZeneca, Pfizer/BioNTech 3564
...
Johnson&Johnson, Oxford/AstraZeneca, Sinovac 312
Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinovac, Sputnik V 311
Johnson&Johnson, Moderna 251
Johnson&Johnson, Pfizer/BioNTech, Sinopharm/Beijing 228
EpiVacCorona, Oxford/AstraZeneca, QazVac, Sinopharm/Beijing, Sputnik V, ZF2001 190
Name: count, Length: 84, dtype: int64

[ ]:
```



The Fig.3 is refer to the data of vaccines and value counts are in Fig.3.

there are vaccines is production by

*Johnson&Johnson

*Oxford/AstraZeneca

*Pfizer/BioNTech

*Sinopharm/Beijing and value of vaccines count

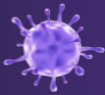




Fig.4

Data of vaccines used in country

Home Covid 19 vaccines analysis

localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data

Jupyter Covid 19 vaccines analysis Last Checkpoint: 47 minutes ago

File Edit View Run Kernel Settings Help Trusted

JupyterLab Python 3 (ipykernel)

EpiVacCorona, Oxford/AstraZeneca, QazVac, Sinopharm/Beijing, Sputnik V, ZF2001 190
Name: count, Length: 84, dtype: int64

Pre process the Data

```
[13]: df=data[["vaccines","country"]]  
df.head()
```

	vaccines	country
0	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	Afghanistan
1	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	Afghanistan
2	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	Afghanistan
3	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	Afghanistan
4	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	Afghanistan

```
[ ]:
```



The Fig.4 is refer to the Data of vaccines used in country in the

Fig.4 *Johnson&Johnson

*Oxford/AstraZeneca

*Pfizer/BioNTech

*Sinopharm/Beijing this



vaccines are used in the country.

Line plot graph for Country and value counts

Fig.5

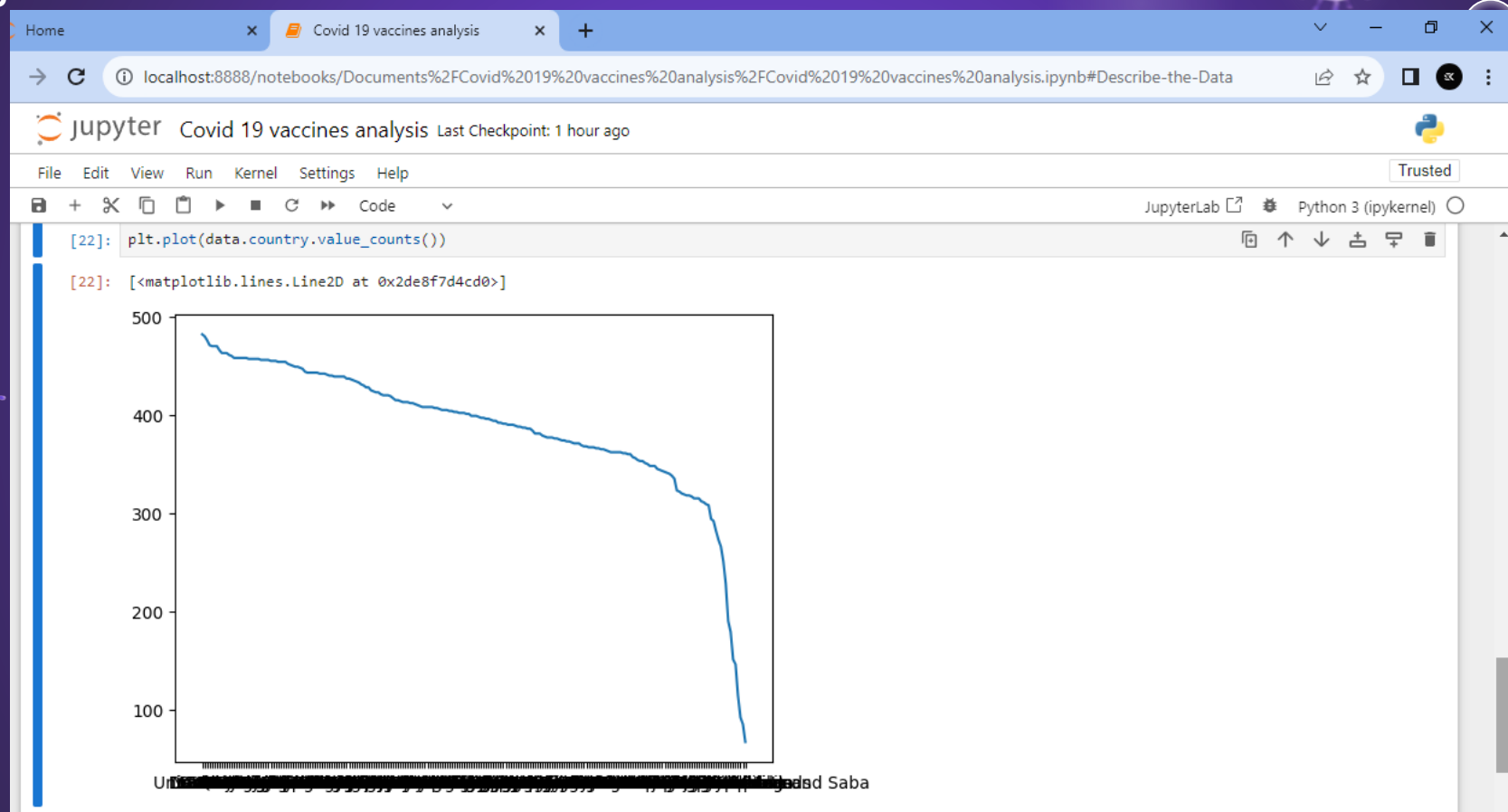


Fig.6.

Data of vaccines and source name

Home Covid 19 vaccines analysis +

localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data

Jupyter Covid 19 vaccines analysis Last Checkpoint: 1 hour ago

File Edit View Run Kernel Settings Help Trusted

JupyterLab Python 3 (ipykernel)

```
Johnson&Johnson, Oxford/AstraZeneca, Sinovac      312
Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinovac, Sputnik V      311
Johnson&Johnson, Moderna      251
Johnson&Johnson, Pfizer/BioNTech, Sinopharm/Beijing      228
EpiVacCorona, Oxford/AstraZeneca, QazVac, Sinopharm/Beijing, Sputnik V, ZF2001      190
Name: count, Length: 84, dtype: int64
```

```
[65]: df=data[["vaccines","source_name"]]
      df.head()
```

```
[65]:
```

	vaccines	source_name
0	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	World Health Organization
1	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	World Health Organization
2	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	World Health Organization
3	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	World Health Organization
4	Johnson&Johnson, Oxford/AstraZeneca, Pfizer/Bi...	World Health Organization

[]:



The Fig.6 is refer to the vaccines and source name in the Fig.6

The source name is World Health Organization of (WHO) is the Source name of vaccines is distributions in all country.

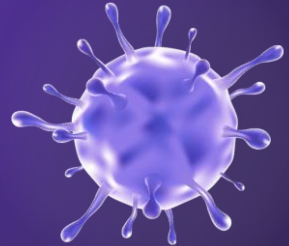
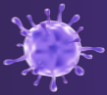
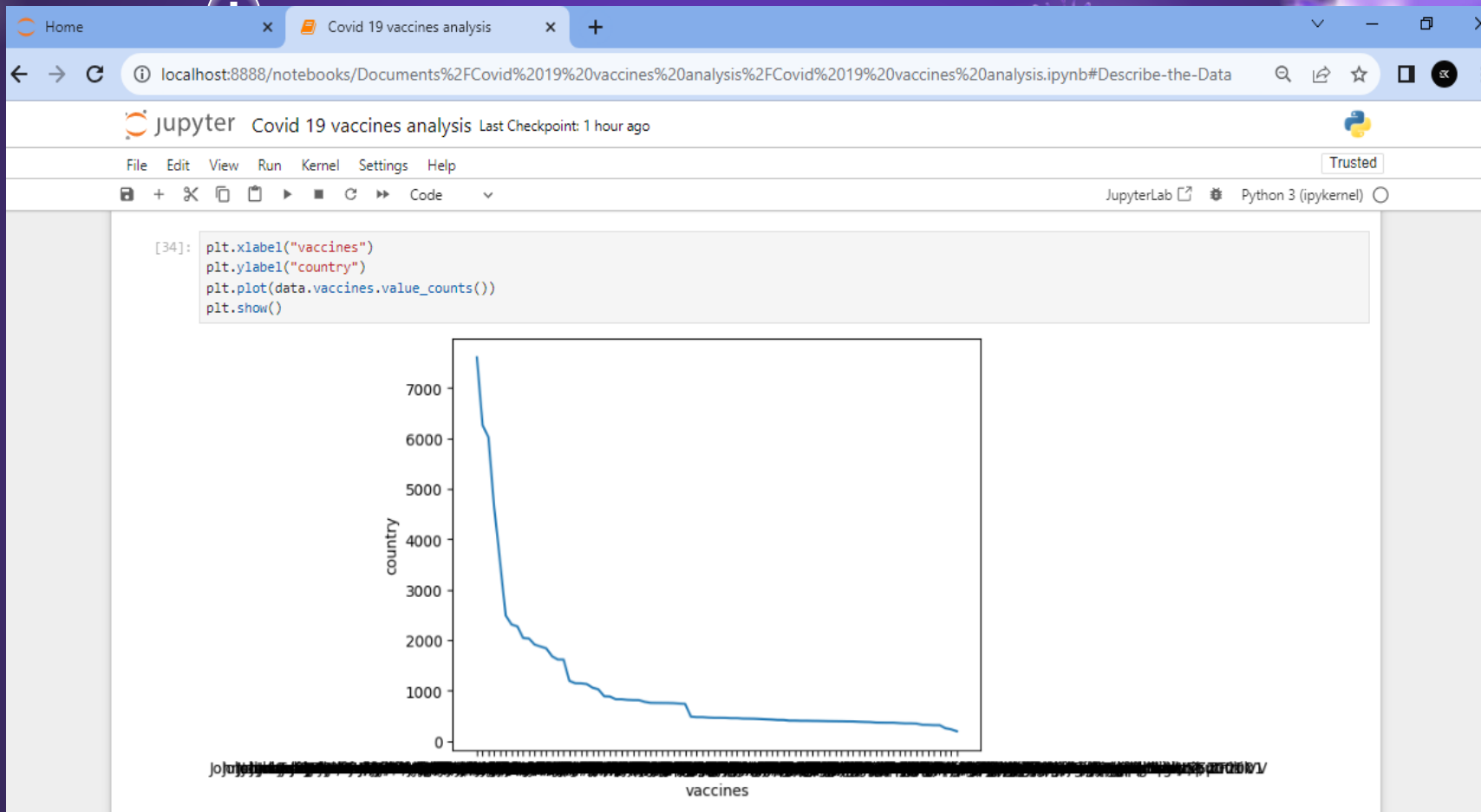
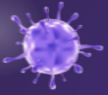


Fig.7

Data of vaccines and value counts



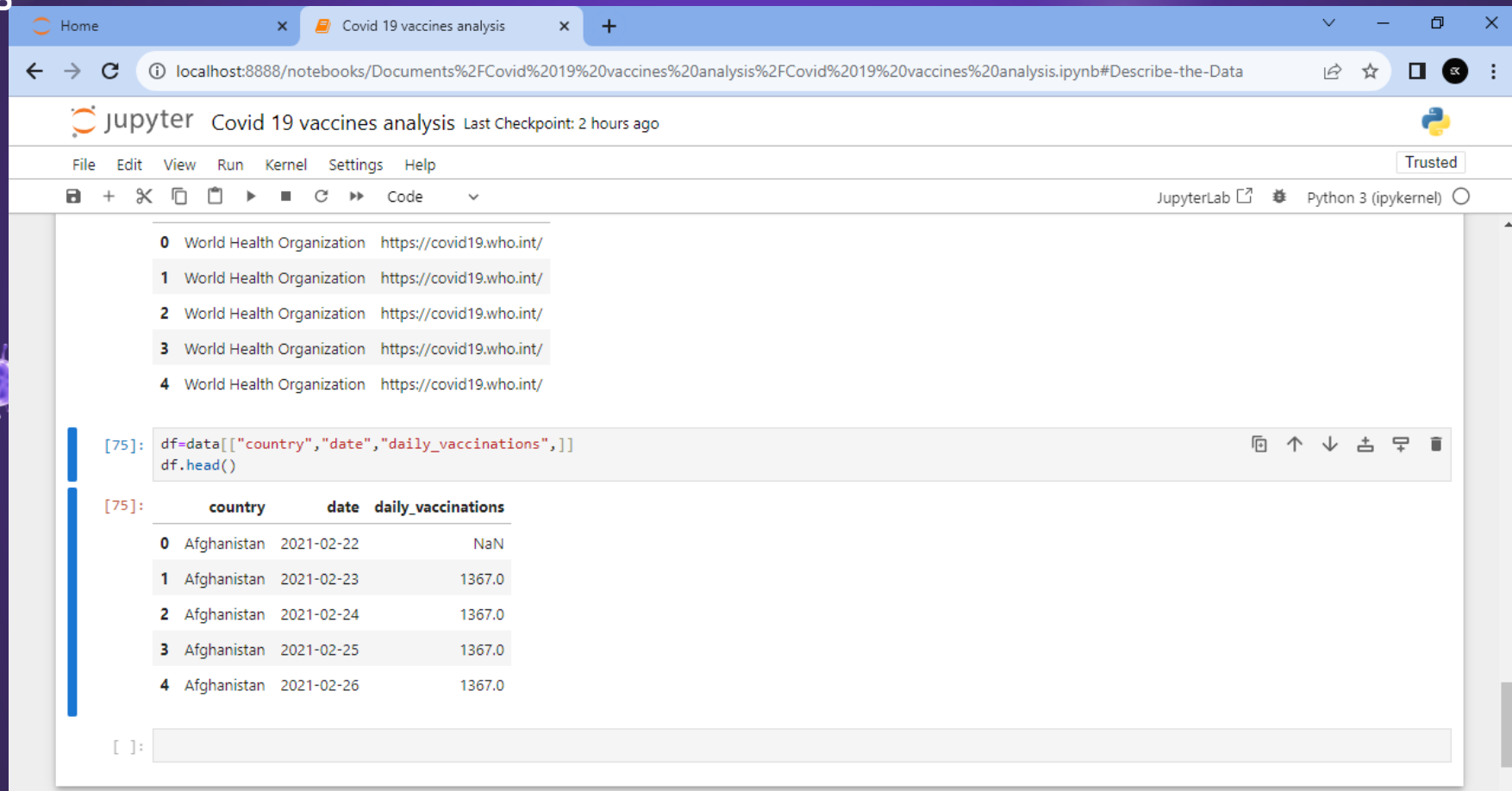


The Fig.7 is refer to the vaccines and value of vaccines counts in the Fig.7 so there are line plot graph for the vaccines and value of vaccines counts in this graph.



Data of country and date with daily vaccination

Fig.8



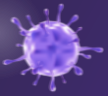
The screenshot displays a JupyterLab environment with a browser window at the top showing the URL `localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data`. The notebook interface includes a menu bar (File, Edit, View, Run, Kernel, Settings, Help) and a toolbar. The notebook content shows a list of five entries, each with the text "World Health Organization" and the URL `https://covid19.who.int/`. Below this, a code cell [75]: contains the following Python code:

```
df=data[["country","date","daily_vaccinations",]]
df.head()
```

The output of the code is a pandas DataFrame with the following data:

	country	date	daily_vaccinations
0	Afghanistan	2021-02-22	NaN
1	Afghanistan	2021-02-23	1367.0
2	Afghanistan	2021-02-24	1367.0
3	Afghanistan	2021-02-25	1367.0
4	Afghanistan	2021-02-26	1367.0

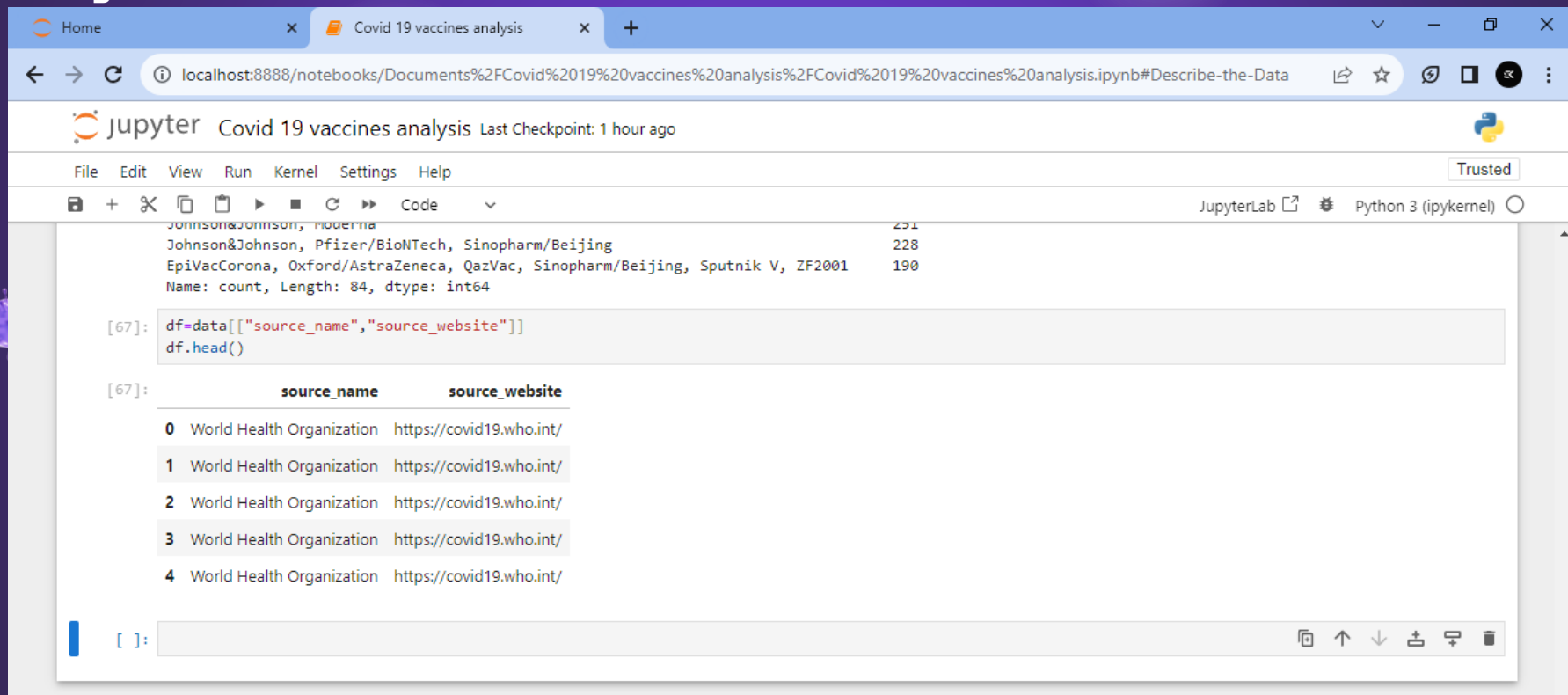
At the bottom of the notebook, there is an empty code cell []:.



The Fig.8 is refer to the country and date with daily vaccination in Fig.8. there are country name and date with the daily vaccination in Fig.8

Data of Source name and source website

Fig.9



Home Covid 19 vaccines analysis

localhost:8888/notebooks/Documents%2FCovid%2019%20vaccines%20analysis%2FCovid%2019%20vaccines%20analysis.ipynb#Describe-the-Data

jupyter Covid 19 vaccines analysis Last Checkpoint: 1 hour ago

File Edit View Run Kernel Settings Help Trusted

JupyterLab Python 3 (ipykernel)

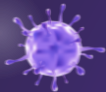
```
Johnson&Johnson, Moderna 251
Johnson&Johnson, Pfizer/BioNTech, Sinopharm/Beijing 228
EpiVacCorona, Oxford/AstraZeneca, QazVac, Sinopharm/Beijing, Sputnik V, ZF2001 190
Name: count, Length: 84, dtype: int64
```

```
[67]: df=data[["source_name","source_website"]]
      df.head()
```

```
[67]:
```

	source_name	source_website
0	World Health Organization	https://covid19.who.int/
1	World Health Organization	https://covid19.who.int/
2	World Health Organization	https://covid19.who.int/
3	World Health Organization	https://covid19.who.int/
4	World Health Organization	https://covid19.who.int/

```
[ ]:
```



The Fig.9 is refer to the Data of source name and source websites in Fig.9

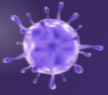
The source name

World Health Organization

The source websites

<https://covid19.who.int/>





The Data is Collected and pre-processed
the Covid-19 vaccine data is analyzed.

Then matplotlib to line plot graph used

⊕ to analyzed the Covid-19 vaccines
analysis