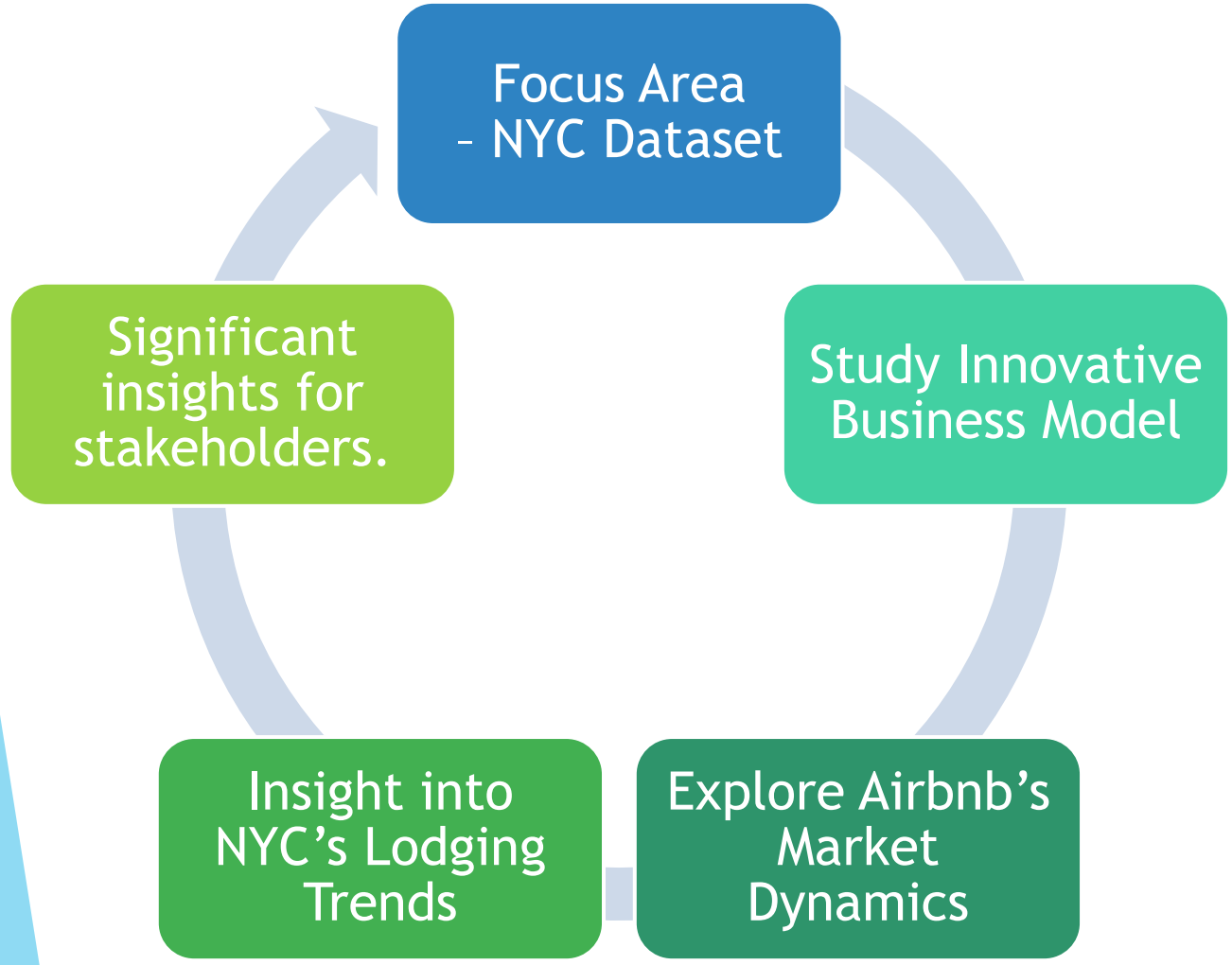
Project Title – AirBnb Hotel Booking Analysis

Samyak Shitalchand Dahale

ID:- AICTE_VOIS OL 4001-6727-906

PROBLEM STATEMENT



- Out job is to uncover patterns and key drivers behind Airbnb's performance in New York City.
- helping understand market behavior, customer preferences, and pricing dynamics within the modern hospitality industry.

Project Description

- Used the **Airbnb NYC dataset** to study listings, prices, and availability.
- Cleaned the data by removing **missing and duplicate records**.
- Performed **exploratory analysis** to find key patterns and trends.
- Visualized insights on **pricing, location, and host activity** using Python tools.
- Explored what affects **customer satisfaction and demand**.
- Shared **useful insights** to help hosts, guests, and stakeholders make better decisions.

- Notebook link

WHO ARE THE END USERS?

Hosts & Guests

Investors/ Shareholders

Tourism & Hospitality Analysts

City Planners & Policy Makers

Technology Used

- Python

  (libraries:- Pandas, Matplotlib, Numpy, Seaborn

- Excel / CSV Dataset
- Google Colab (for execution)
- Github

RESULTS 1

SamyakVOIS_AirBNB.ipynb

File Edit View Insert Runtime Tools Help

Share

mands | + Code + Text | Run all

RAM Disk

13]

```
import pandas as pd
from google.colab import drive
drive.mount('/content/drive')
file_path = '/content/drive/MyDrive/1730285881-Airbnb_Open_Data.xlsx'
df=pd.read_excel('/content/drive/MyDrive/1730285881-Airbnb_Open_Data.xlsx')
```

40]
0s

```
df.head()
```

	id	NAME	host id	host_identity_verified	host name	neighbourhood group	neighbourhood	lat	long	country	...	Construction year	price ($)	service fee ($)	minimum nights
0	1001254	Clean & quiet apt home by the park	80014485718	unconfirmed	Madaline	Brooklyn	Kensington	40.64749	-73.97237	United States	...	2020	966.0	193.0	10.0
1	1002102	Skylit Midtown Castle	52335172823	verified	Jenna	Manhattan	Midtown	40.75362	-73.98377	United States	...	2007	142.0	28.0	30.0
2	1002403	THE VILLAGE OF HARLEM....NEW YORK !	78829239556	unconfirmed	Elise	Manhattan	Harlem	40.80902	-73.94190	United States	...	2005	620.0	124.0	3.0
3	1002755	Unnamed Listing	85098326012	unconfirmed	Garry	Brooklyn	Clinton Hill	40.68514	-73.95976	United States	...	2005	368.0	74.0	30.0

Variables Terminal

7:07 AM Python 3

RESULTS2

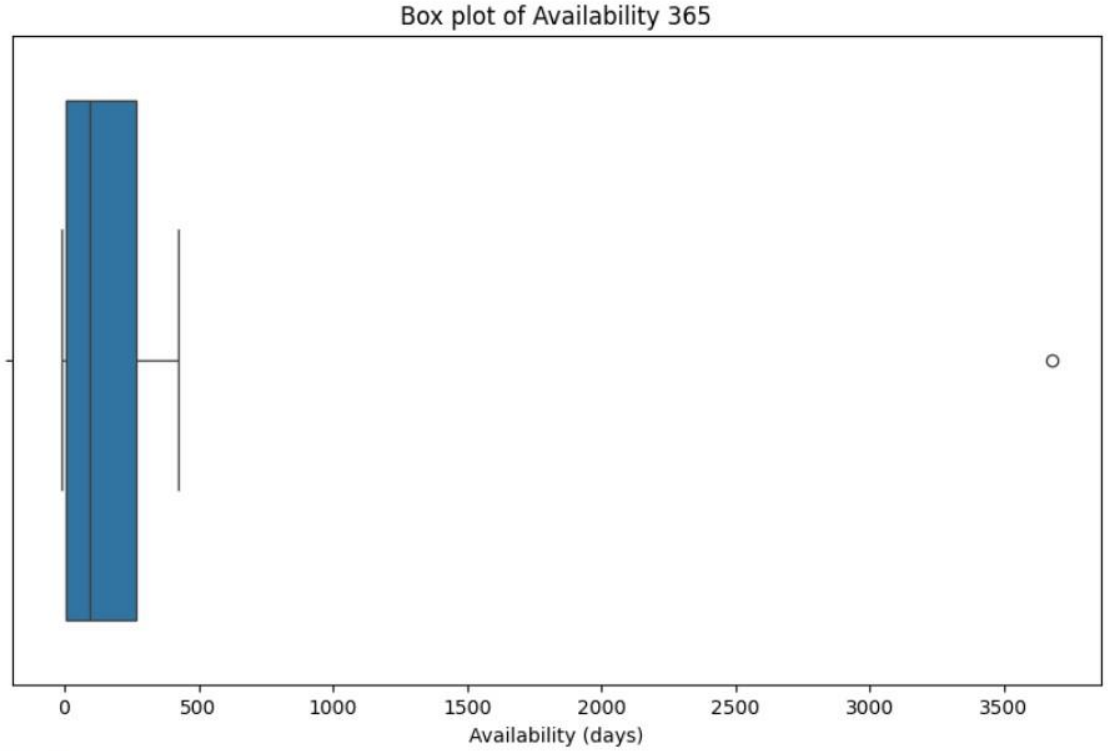
SamyakVOIS_AirBNB.ipynb

File Edit View Insert Runtime Tools Help

mmands + Code + Text ▷ Run all

[41] ✓ 0s

```
print("\nOutliers in 'availability 365' have been removed.")
print(f"Number of rows after outlier removal: {df.shape[0]}")
```




```
Q1: 3.0
Q3: 268.0
IQR: 265.0
Lower bound for outliers: -394.5
Upper bound for outliers: 665.5
Number of outliers: 1

Outliers in 'availability 365' have been removed.
Number of rows after outlier removal: 102057
```

RESULTS3

SamyakVOIS_AirBNB.ipynb

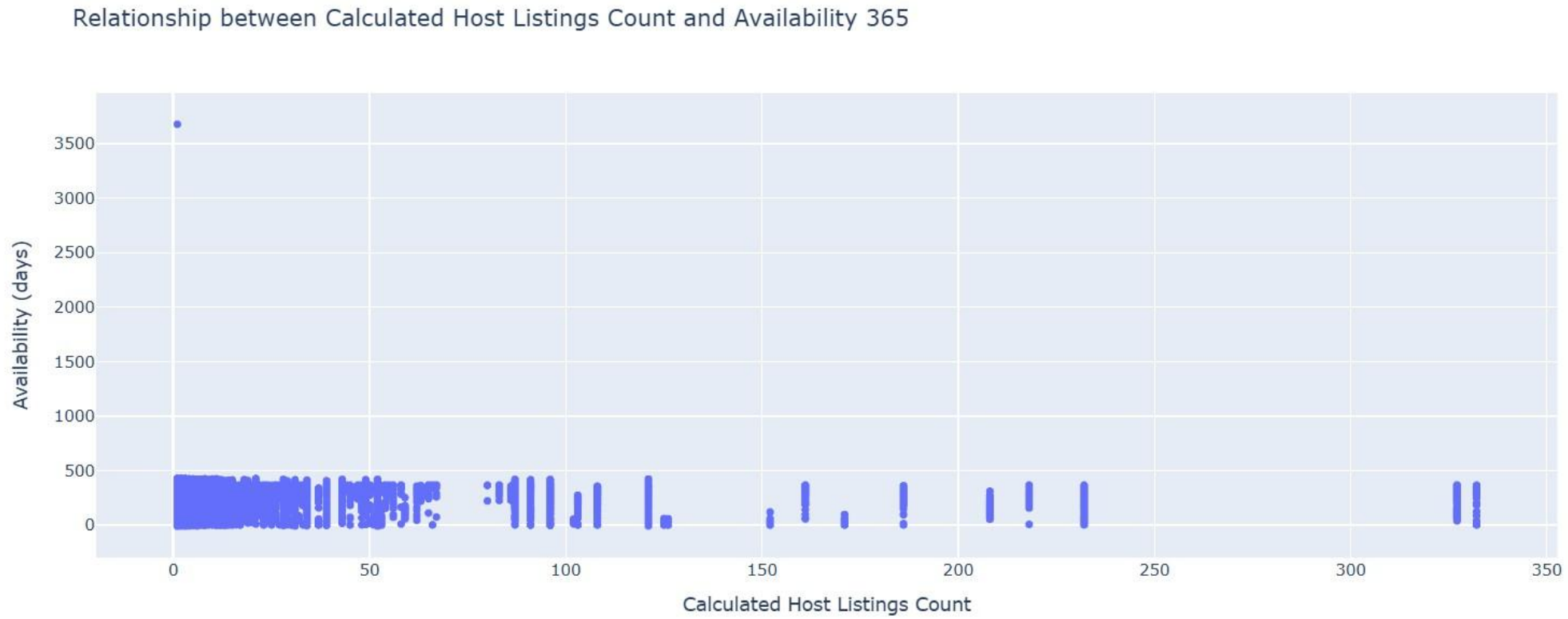
File Edit View Insert Runtime Tools Help

mands + Code + Text Run all

'availability 365'.

38]
Os

```
fig = px.scatter(df, x='calculated host listings count', y='availability 365',
                 title='Relationship between Calculated Host Listings Count and Availability 365')
fig.update_layout(xaxis_title='Calculated Host Listings Count', yaxis_title='Availability (days)')
fig.show()
```



RESULTS4

SamyakVOIS_AirBNB.ipynb

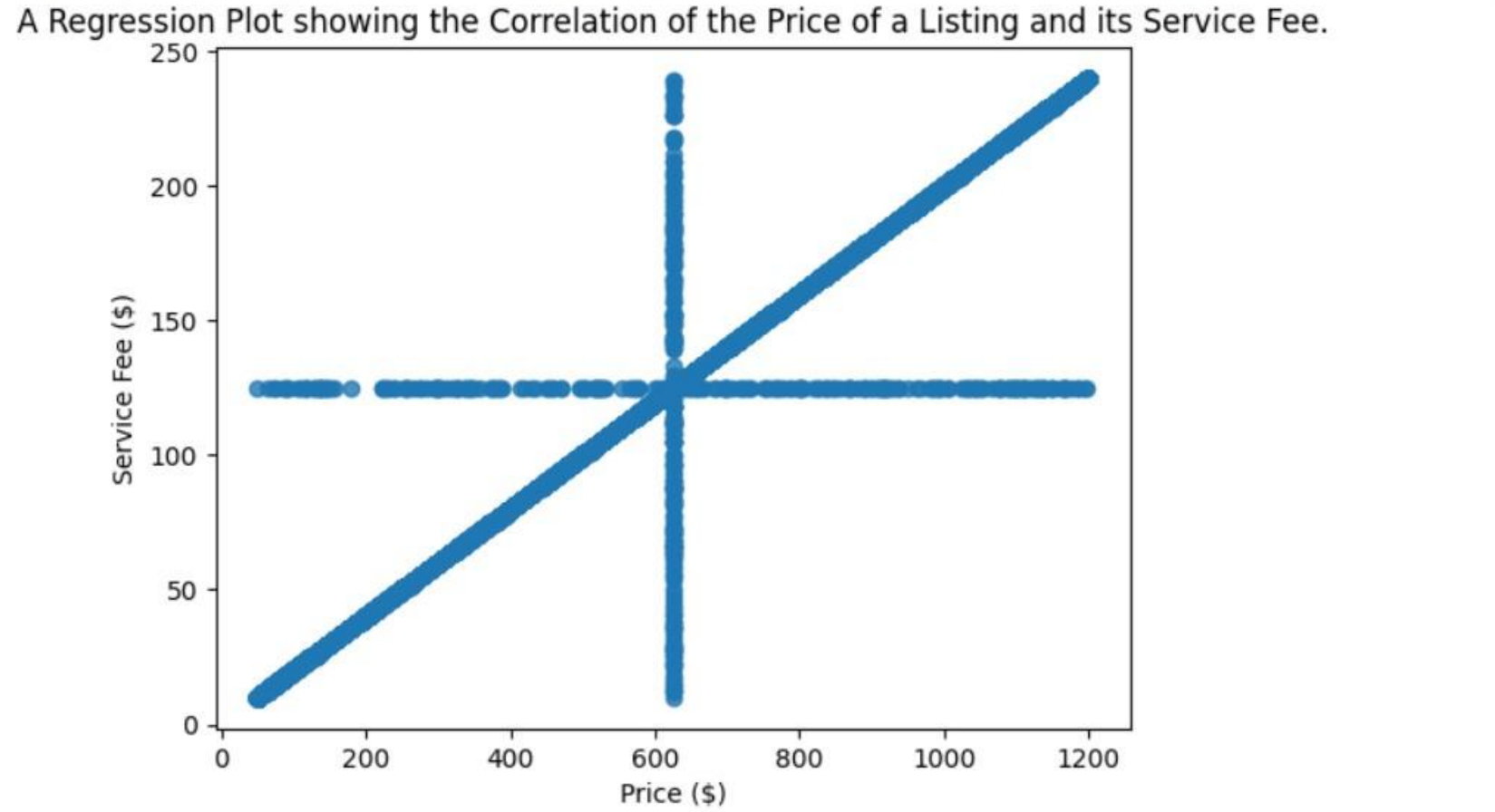
File Edit View Insert Runtime Tools Help

mands + Code + Text ▷ Run all

48] 10s

```
plt.ylabel('Service Fee ($)');
plt.title('A Regression Plot showing the Correlation of the Price of a Listing and its Service Fee.')
```

```
Text(0.5, 1.0, 'A Regression Plot showing the Correlation of the Price of a Listing and its Service Fee.')
```



GitHub repository

https://github.com/SamyakDahale/VOIS_AICTE_Oct2025_SamyakDahale.git

Link

Getting started with Basics of Python Certificate

Vodafone Idea Foundation

VOIS

Connecting Dreams Foundation

Certificate of Completion

Presented to

SAMYAK DAHALE

For the successful completion of

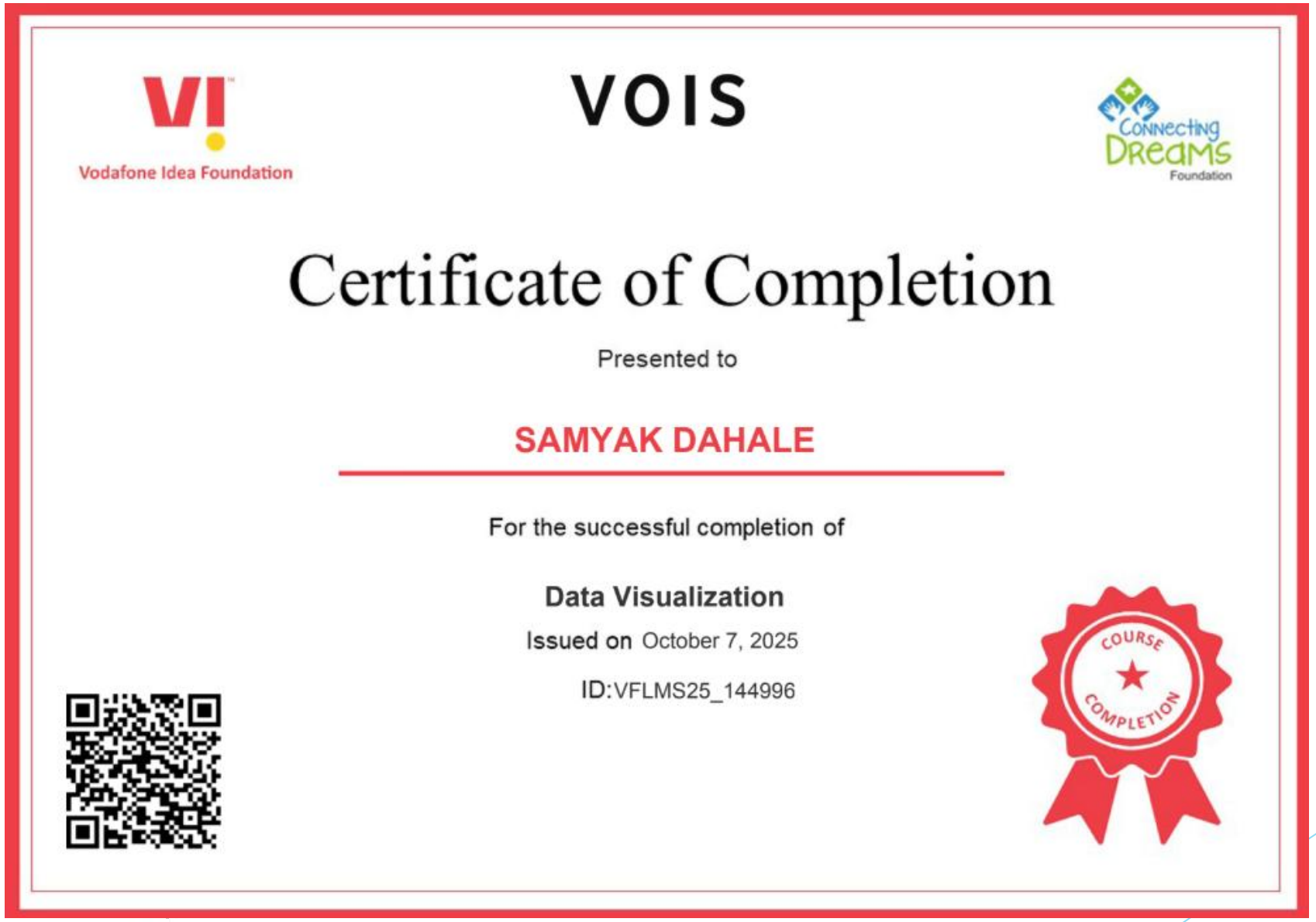
Getting started with Basics of Python

Issued on October 7, 2025

ID:VFLMS25_144996

COURSE COMPLETION

Data Visualization Certificate



Thank you