

1 \Rightarrow Initializing values directly into DataFrame

```
import pandas as pd
data = {
    'USN': ['IMS231S001', 'IMS231S002', 'IMS231S003', 'IMS231S004', 'IMS231S005'],
    'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Eve'],
    'Marks': [85, 92, 78, 88, 95]
}
df = pd.DataFrame(data)
print(df)
```

Output:

	DataFrame with initialized values		
	Name	Marks	
0	Alice	85	
1	Bob	92	
2	Charlie	78	
3	David	88	
4	Eve	95	

2 \Rightarrow Importing datasets from sklearn.datasets

Loading diabetes datasets.

from sklearn.datasets import load_diabetes

import pandas as pd

diabetes = load_diabetes()

df = pd.DataFrame(diabetes.data, columns=diabetes.feature_names)

df['target'] = diabetes.target

print("Sample data:")

print(df.head())

3 \Rightarrow Importing datasets from specific csv file
sample_sales_data.csv.

```
import pandas as pd
```

```
file-path = 'I\content\sales-data-sample.csv'  
df = pd.read_csv(file-path, encoding='latin1')
```

```
print("Sample data:")  
print(df.head())
```

4 \Rightarrow Downloading datasets from existing dataset repositories like kaggle, UCI, Mendeley, FEEL, ...
diabetes dataset from Mendeley.

```
import pandas as pd
```

```
file-path = 'I\content\Dataset of Diabetes.csv'  
df = pd.read_csv(file-path)
```

```
print("Sample data:")  
print(df.head())
```

Output: Sample data:

	ID	NO-Patent	Gender	AGE	Brea	CR
0	502	17975	F	50	4.7	46
1	735	34221	M	26	4.5	62
2	420	47975	F	50	4.7	46
3	680	87656	F	50	4.7	46
4	804	34223	M	33	4.1	46

→ Stock Analysis.

Stock Market Data Analysis considering:
 → ~~HDFC BANK LTD~~ given constraints.

```
import yfinance as yf
import pandas as pd
import matplotlib.pyplot as plt
```

```
tickers = ["HDFCBANK.NS", "ICICIBANK.NS", "KOTAKBANK.NS"]
```

```
data = yf.download(tickers, start='2024-01-01',
                   end='2024-12-30', group_by='ticker')
```

```
print('First 5 rows of the dataset:')
```

```
print(data.head())
```

Output: (It'll write 1 line for each ticker)

Ticker	ICO	TAKBANK.NS	price	open	high	low	close	volume
date								
2024-01-01	1906.90	1916	1819	1907	1425902			

```
print("In Shape of the dataset: ")
```

```
print(data.shape)
```

```
print("In Column names: ")
```

```
print(data.columns)
```

Output: shape of the dataset:
 (244, 15)

for ticker in tickers:

bank_data = data[ticker]

print(f"\nSummary statistics for {ticker}:")

print(bank_data.describe())

bank_data['Daily Return'] = bank_data['Close'].pct_change()

plt.figure(figsize=(12,6))

plt.subplot(2,1,1)

bank_data['Close'].plot(title=f'{ticker} - Closing Price')

plt.subplot(2,1,2)

bank_data['Daily Return'].plot(title=f'{ticker} - Daily Returns', color='orange')

plt.tight_layout()

plt.show()

bank_data.to_csv(f'{ticker}-stock-data.csv')

print(f"\n{ticker} stock data saved to '{ticker}-stock-data.csv'")

outputs:

Summary statistics and the
Analysis graphs for respective banks.

~~Ques SB
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