Lab Assignment 8

Fundamentals of Machine Learning

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Q. Implementing Pandas

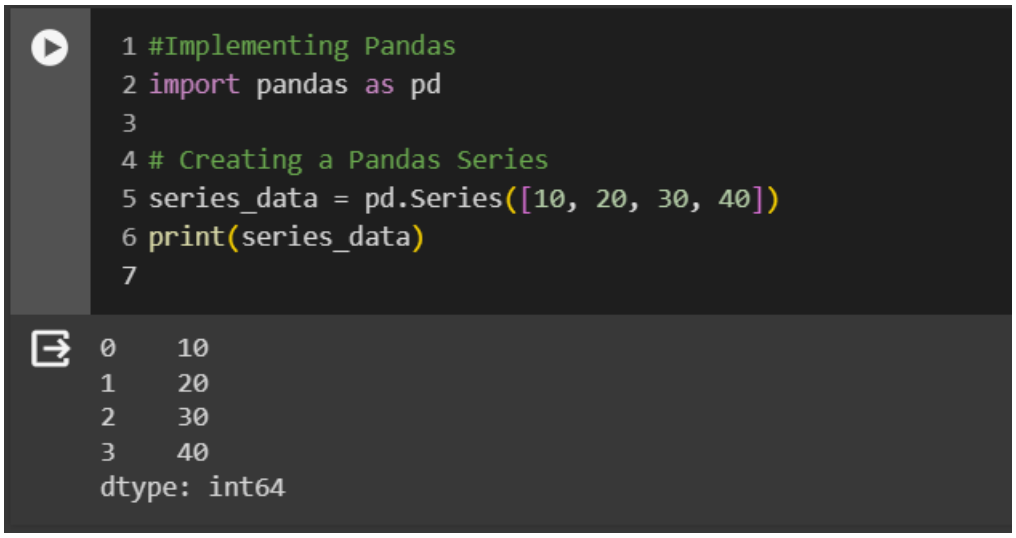
1, #Implementing Pandas

import pandas as pd

Creating a Pandas Series

series_data = pd.Series([10, 20, 30, 40])

print(series_data)



```
#Implementing Pandas
import pandas as pd

# Creating a Pandas Series
series_data = pd.Series([10, 20, 30, 40])
print(series_data)

```

```
0    10
1    20
2    30
3    40
dtype: int64
```

2, # Creating a Pandas DataFrame

data = {'Name': ['Alice', 'Bob', 'Charlie'],

'Age': [25, 30, 22]}

df = pd.DataFrame(data)

print(df)

```
# Creating a Pandas DataFrame
data = {'Name': ['Alice', 'Bob', 'Charlie'],
        'Age': [25, 30, 22]}

df = pd.DataFrame(data)
print(df)

```

```
      Name  Age
0    Alice   25
1      Bob   30
2  Charlie   22
```

3, # Selecting a column by label

ages = df['Age']

print(ages)

Selecting rows based on a condition

young_people = df[df['Age'] < 30]

print(young_people)

```
# Selecting a column by label
ages = df['Age']
print(ages)

# Selecting rows based on a condition
young_people = df[df['Age'] < 30]
print(young_people)

```

```
0    25
1    30
2    22
Name: Age, dtype: int64
      Name  Age
0    Alice   25
2  Charlie   22
```

4, # Handling missing values

df.dropna() # Drop rows with missing values

df.fillna(5) # Fill missing values with a specified value

Applying transformations

df['Age'] = df['Age'] + 1 # Incrementing ages by 1

print(df)

```
# Handling missing values
df.dropna()  # Drop rows with missing values
df.fillna(5)  # Fill missing values with a specified value

# Applying transformations
df['Age'] = df['Age'] + 1  # Incrementing ages by 1
print(df)

```

```
      Name  Age
0    Alice   26
1      Bob   31
2  Charlie   23
```

5, # Grouping by a column and calculating the mean

average_age_by_name = df.groupby('Name')['Age'].mean()

print(average_age_by_name)

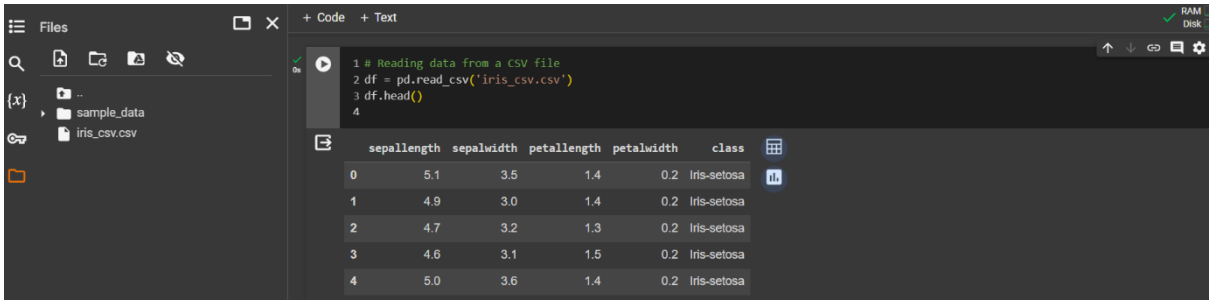
```
# Grouping by a column and calculating the mean
average_age_by_name = df.groupby('Name')['Age'].mean()
print(average_age_by_name)

```

```
Name
Alice      26.0
Bob        31.0
Charlie    23.0
Name: Age, dtype: float64
```

6, # Reading data from a CSV file

df = pd.read_csv('iris_csv.csv')

df.head()



Github Link: https://github.com/Jeyapathy/Machine-Learning