EX No:9

Pandas

Question

Do the following operations

1) Create empty dataframe

2) Declare and print the dataframe series

3) Add and delete columns

4) Extract, slice, add and delete rows

Aim:

To perform various DataFrame operations in pandas including creating a DataFrame, extracting columns and rows, adding and deleting columns, slicing rows, and appending new rows.

Program:

import pandas as pd

# Empty DataFrame

df = pd.DataFrame()

print("Empty DataFrame:")

print(df)

# Creating Series

names = pd.Series(['Parker', 'John', 'Smith', 'William'])

ids = pd.Series([102, 107, 109, 114])

# Creating DataFrame

frame = {"Emp": names, "ID": ids}

result = pd.DataFrame(frame)

print("\nDataFrame:")

print(result)

# Extracting one column

print("\nExtracting one column:")

print(result['Emp'])

# Adding new column

result['Age'] = pd.Series([35, 24, 40, 38])

print("\nAdding new column:")

print(result)

# Deleting one column

del result['Age']

print("\nDeleting one column:")

print(result)

# Extracting the third row

print("\nExtracting the third row:")

print(result.loc[2])

# Slice rows

print("\nSlice rows:\n", result[1:3])

# Creating another DataFrame for adding new row

d2 = pd.DataFrame([['Dale', 123], ['Mark', 143]], columns=['Emp', 'ID'])

# Adding new row values

print("\nAdding new row values:\n", result.append(d2))

# Deleting particular row

print("\nDeleting particular row:\n", result.drop(1))

Output:

Empty DataFrame:

Empty DataFrame

Columns: []

Index: []

DataFrame:

Emp ID

0 Parker 102

1 John 107

2 Smith 109

3 William 114

Extracting one column:

0 Parker

1 John

2 Smith

3 William

Name: Emp, dtype: object

Adding new column:

Emp ID Age

0 Parker 102 35

1 John 107 24

2 Smith 109 40

3 William 114 38

Deleting one column:

Emp ID

0 Parker 102

1 John 107

2 Smith 109

3 William 114

Extracting the third row:

Emp Smith

ID 109

Name: 2, dtype: object

Slice rows:

Emp ID

1 John 107

2 Smith 109

Adding new row values:

Emp ID

0 Parker 102

1 John 107

2 Smith 109

3 William 114

0 Dale 123

1 Mark 143

Deleting particular row:

Emp ID

0 Parker 102

2 Smith 109

3 William 114