**Task No. 1:** In which year max no of fires were reported.

**Solution:**

import pandas as pd

dataset=pd.read\_csv("amazon.csv",encoding="latin-1")

dataset

max\_fires\_year = dataset.groupby('year')['number'].sum().idxmax()

print(f"Year with the maximum number of fires reported: {max\_fires\_year}")

**Output:**

**Task No. 2:** Find average number of fires reported from highest to lowest with reference to state.

**Solution:**

import pandas as pd

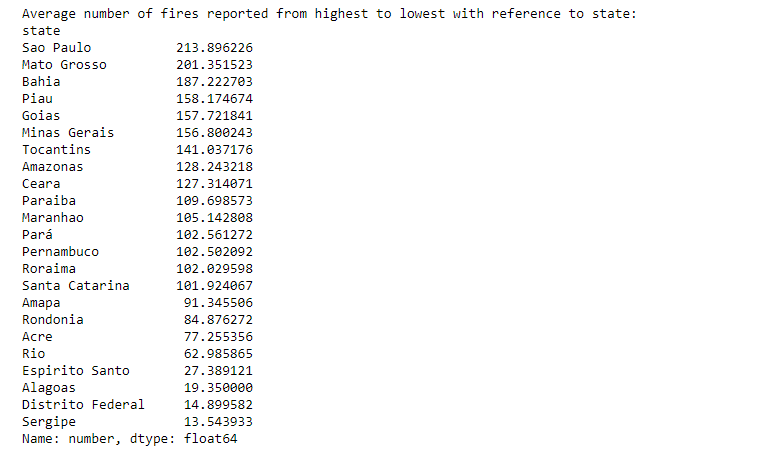
dataframe =pd.read\_csv("amazon.csv",encoding="latin-1")

dataframe

avg\_fires\_by\_state = dataframe.groupby('state')['number'].mean().sort\_values(ascending=False)

print("Average number of fires reported from highest to lowest with reference to state:")

print(avg\_fires\_by\_state)

**Output:**

**Task No. 3:** Find the state names where fire was reported in Dec.

**Solution:**

import pandas as pd

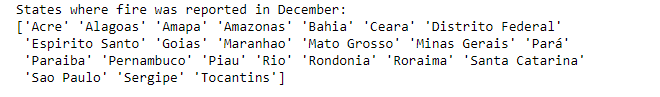
dataframe =pd.read\_csv("amazon.csv",encoding="latin-1")

dataframe

december\_states = dataframe[dataframe['month'] == 'Dezembro']['state'].unique()

print("States where fire was reported in December:")

print(december\_states)

**Output:**

**Task No. 4:** Report top 3 states where highest number of fires were reported.

**Solution:**

import pandas as pd

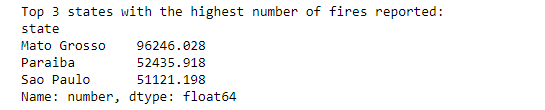
dataframe =pd.read\_csv("amazon.csv",encoding="latin-1")

dataframe

top\_3\_states = dataframe.groupby('state')['number'].sum().sort\_values(ascending=False).head(3)

print("Top 3 states with the highest number of fires reported:")

print(top\_3\_states)

**Output:**

**Task No. 5:** Report fires from Bahia, Acre, and Rio fetch data from 2010 to 2015 and number of fires greater than 0.

**Solution:**

import pandas as pd

dataframe =pd.read\_csv("amazon.csv",encoding="latin-1")

dataframe

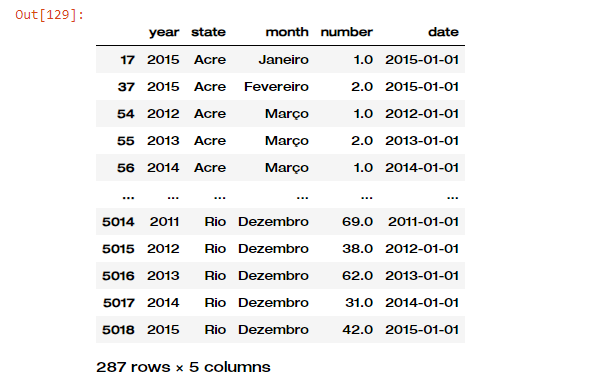
mask = (dataframe["state"] == "Rio") | (dataframe["state"] == "Acre") | (dataframe["state"] == "Bahia")

mask1=(dataframe["year"]> 2010) & (dataframe["year"] < 2016)

mask3=(dataframe["number"] >0)

dataframe[mask & mask1&mask3]

**Output:**



**Task No. 6:** Report year wise fires of the state with highest number of fires.

**Solution:**

import pandas as pd

dataframe =pd.read\_csv("amazon.csv",encoding="latin-1")

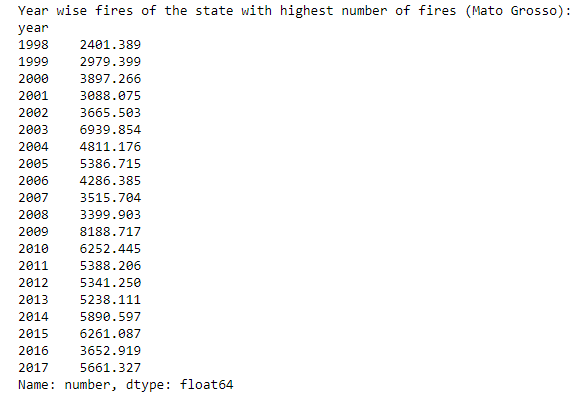
dataframe

state\_with\_max\_fires = dataframe.groupby('state')['number'].sum().idxmax()

year\_wise\_fires = dataframe[dataframe['state'] == state\_with\_max\_fires].groupby('year')['number'].sum()

print(f"Year wise fires of the state with highest number of fires ({state\_with\_max\_fires}):")

print(year\_wise\_fires)

**Output:**

**Task No. 7:** Find aggregate(sum, count, avg, max, min) of number of fires state wise.

**Solution:**

import pandas as pd

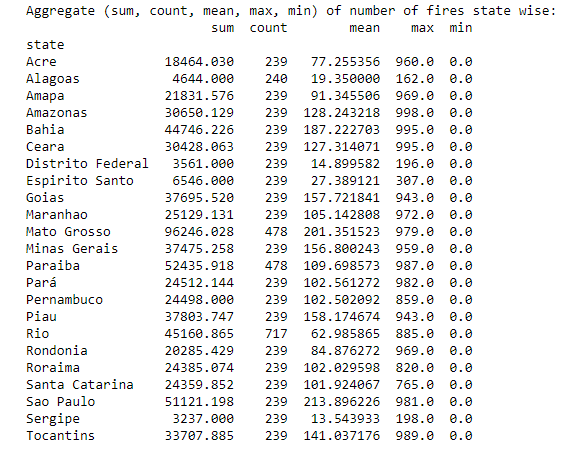
dataframe =pd.read\_csv("amazon.csv",encoding="latin-1")

dataframe

state\_wise\_aggregate = dataframe.groupby('state')['number'].agg(['sum', 'count', 'mean', 'max', 'min'])

print("Aggregate (sum, count, mean, max, min) of number of fires state wise:")

print(state\_wise\_aggregate)

**Output:**