import numpy as nd

onearray=nd.array([3,2,4,5])

onearray

onearray.ndim

onearray.shape

tdarray=nd.array([[1,3,2,5],[6,5,4,4]])

print(tdarray)

print(tdarray.ndim)

tdarray.shape

threearray=nd.array([[[12,3,4,5],[5,3,6,7]],[[5,3,4,2],[4,3,2,4]]])

print(threearray)

print(threearray.itemsize)

print(threearray.size)

threearray.ndim

threearray.shape

z=nd.zeros((2,3),dtype='int')

z

type(z)

z.dtype

nd.linspace(10,20,6,retstep=True,endpoint=False)

x1=nd.random.randint(1,10,5)

x2=nd.random.randint(20,100,5)

x3=nd.random.randint(50,100,5)

r=nd.array([x1,x2,x3])

print(r)

print(r.ndim)

e=nd.eye(3,4,k=2)

print(e)

print(e.ndim)

s=nd.array([2.3,4.5,7.4],dtype='float')

print(s)

print(s.itemsize)

print(s.size)

nd.random.randn(3)

nd.random.rand(3)

r=nd.arange(1,13)

print(r)

r.reshape(3,4)

r.argmax()

r.max()

s=nd.arange(1,12)

s

s[4]

s[2:6]

s[::]

s[::-1]

s[:4]

tdarray=nd.array([[1,3,2,5],[6,5,4,4],[4,3,5,5]])

print(tdarray)

t=tdarray.flatten()

print(t.ndim)

print(t)

(tdarray.argmax(axis=0))

print(tdarray.argmax(axis=0))#row,columnaxis=0

tdarray[:2,2:]

f=nd.arange(1,11)

g=nd.arange(10,20)

print(f.shape)

print(g.shape)

print(f+g)

import pandas as pd

import numpy as nd

n=nd.array([11,22,33,54,56,66])

#fruits=["red","yellow","orange","purple"]

s=pd.Series(n)

print(s)

print(s[2:4])

import pandas as pd

ds=pd.DataFrame({"name":["sai","ram","jai"],"age":[12,33,44]})

print(ds)

data=pd.read\_csv("D:/Users/Administrator/Desktop/demo.csv")

data

#There are three types of Multi-axes indexing:

#loc() - Label based--loc[row,col]

#iloc() - Integer based--iloc[row,col]

# display all the columns

data.columns

data["age"]

# Selecting multiple columns

data[["studentname","age"]]

#select all rows and columns

data.loc[:,]

#select all rows for a specific column

data.loc[:,'age']

# Select all rows for multiple columns, say list[]

data.loc[:,['studentname','marks']]

# Select few rows for multiple columns, say list[]

data.loc[[1,2,3],['age']]

data.loc[1:3,'age']

#select all rows and columns

data.iloc[:,]

#select all rows for a specific column

data.iloc[:,[0,1]]

print(data['age'])

print(data[data['age']>10])

data

import numpy as np

import pandas as pd

df = pd.DataFrame({'A':[1,2,np.nan],

'B':[6,np.nan,np.nan],

'C':[1,2,3]})

df

data.drop('age',axis=1,inplace=True)

data

import numpy as np

import pandas as pd

df = pd.DataFrame({'A':[1,2,np.nan],

'B':[6,np.nan,np.nan],

'C':[1,2,3]})

df

df.isna().sum()

df['A']=df['A'].fillna(12)

df['B']=df['B'].fillna(22)

df

df.isna().sum()

data=pd.read\_csv("D:/Users/Administrator/Desktop/demo.csv")

data

#df.isna().sum()

#print(df['B'].dropna())#drop colunmn nan values

data.isna().sum()

data

df.isna().sum()

df.fillna(value = 3)

df["A"]=df["A"].fillna(0)

df["B"]=df["B"].fillna(0)

df.isna().sum()

data.isna().sum()

data.isna().sum()

data["marks"]=data.fillna(22)

data.fillna(value=88)

data.isna().sum()

data.head()

#data.tail()

data.describe()

import pandas as pd

import matplotlib.pyplot as plt

data=pd.read\_csv("D:/Users/Administrator/Desktop/demo.csv")

data

data.fillna(4)

data.plot(x="studentname",y="marks",kind="barh")

plt.show()

data.plot(x="studentname",y="marks",kind="scatter")

plt.show()

data.plot(x="studentname",y="marks",kind="line")

plt.show()

data.plot(y="marks",kind="hist")

plt.show()

data.plot(y="marks",kind="box")

plt.show()

#print(data)

my\_labels = data["studentname"]

my\_data =data["marks"]

my\_colors = ['b','r','g','m','c','b','g','r']

my\_explode = (0, 0.1, 0,0,0,0,0,0)

plt.pie(my\_data, labels=my\_labels, autopct="%1.1f%%", colors=my\_colors, explode=my\_explode)

plt.show()