PYTHHON PROGRAMMING

Lab-26 Answers

HAREESHA H M

AF0364330

1.Write a Pandas program to create a dataframe from a dictionary and display it.

Sample data: score={'Math':[78,85,96,80,86], 'English':[84,94,89,83,86],'Hindi':[86,97,96,72,83]}

Code:

import pandas as pd #importing pandas as pd.

score = {'Math': [78, 85, 96, 80, 86], 'English': [84, 94, 89, 83, 86], 'Hindi': [86, 97, 96, 72, 83]} # Sample data.

df = pd.DataFrame(score) # Creating DataFrame.

print(df) # Display DataFrame.

Output:

Math English Hindi

0 78 84 86

1 85 94 97

2 96 89 96

3 80 83 72

4 86 86 83

2.Write a Pandas program to create and display a DataFrame from aspecified dictionary data which has the index labels. Sample Python dictionary data and list labels:

exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

Code:

import pandas as pd #importing pandas as pd.

import numpy as np #importing numpy as np.

# Giving the dictionary data.

exam\_data = {

    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']

}

index\_labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']# Index labels.

df = pd.DataFrame(exam\_data, index=index\_labels) # Creating the DataFram.

print(df) # Displaying the DataFrame.

Output:

name score attempts qualify

a Anastasia 12.5 1 yes

b Dima 9.0 3 no

c Katherine 16.5 2 yes

d James NaN 3 no

e Emily 9.0 2 no

f Michael 20.0 3 yes

g Matthew 14.5 1 yes

h Laura NaN 1 no

i Kevin 8.0 2 no

j Jonas 19.0 1 yes

3.Write a Pandas program to get the first 3 rows of a given DataFrame. Sample DataFrame:

exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

Code:

import pandas as pd #importing pandas as pd.

import numpy as np #importing numpy as np.

# Giving the DataFrame.

exam\_data = {

    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']

}

df = pd.DataFrame(exam\_data) # Create DataFrame.

first\_3\_rows = df.head(3) # Get the first 3 rows.

print(first\_3\_rows) #printing the first 3 rows.

Output:

name score attempts qualify

0 Anastasia 12.5 1 yes

1 Dima 9.0 3 no

2 Katherine 16.5 2 yes

4.Write a Pandas program to select the 'name' and 'score' columns from the following DataFrame. Sample Python dictionary data and list labels:

 exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

Code:

import pandas as pd #importing pandas as pd.

import numpy as np #importing numpy as np.

# Giving the DataFrame.

exam\_data = {

    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']

}

df = pd.DataFrame(exam\_data) # Create DataFrame.

selected\_columns = df[['name', 'score']] # Select 'name' and 'score' columns.

print(selected\_columns) #printing the selected columns.

Output:

name score

0 Anastasia 12.5

1 Dima 9.0

2 Katherine 16.5

3 James NaN

4 Emily 9.0

5 Michael 20.0

6 Matthew 14.5

7 Laura NaN

8 Kevin 8.0

9 Jonas 19.0