PYTHHON PROGRAMMING

Lab-26 Answers

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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