1.Explain three-dimensional data indexing.

Ans:

Multi dimensional index are **formed by multiple search key**. It can be in the form of multidimensional array used by complex organizations. Many applications GIS, OLAP requires this to view as existing in a space for two or more dimensions.

2.What's the difference between a series and datagrams?

Ans:

Series is a one dimensional object that can any datatype , it can be int , float , string or anything. In simpler words series are somewhat like a list , but here you can

define your index too . Instead of starting from 0 to len(n-1) , you can define your own index like a, b ,c which are similar to keys in dictionary.

Now DataFrame is a two dimensional object. It has columns and rows. Each column may have different types of values including list , tuples , dictionaries and even other dataframes too.

3.What role does pandas play in data cleaning?

Ans:

Pandas **provide extended data structures to hold different types of labeled and relational data**. This makes python highly flexible and extremely useful

for data cleaning and manipulation. Pandas is highly flexible and provides functions for performing operations like merging, reshaping, joining, and concatenating data.

4.How do you use pandas to make a data frame out of n-dimensional arrays?
Ans:

As we know Python is a great language for doing data analysis, primarily because of the fantastic ecosystem of data-centric Python packages. Pandas is one of those packages and makes importing and analyzing data much easier.

Pandas Dataframe can be achieved in multiple ways. In this article, we will learn how to create a dataframe using two-dimensional List.

Example #1:

```
# import pandas as pd

import pandas as pd



# List1

lst = [['Geek', 25], ['is', 30],

      ['for', 26], ['Geeksforgeeks', 22]]



# creating df object with columns
specified

df = pd.DataFrame(lst, columns =['Tag',
'number'])
```

```
print(df )
```

Output:

```
Tag number 0 Geek 25 1 is 30 2 for 26 3
Geeksforgeeks 22
```

Example #2:

```
import pandas as pd



# List1

lst = [['tom', 'reacher', 25], ['krish', 'pete', 30],

      ['nick', 'wilson', 26], ['juli', 'williams', 22]]
```

```
df = pd.DataFrame(lst, columns =['FName',
'LName', 'Age'],

                                dtype = float)

print(df)
```

Output:

FName LName Age 0 tom reacher 25 1 krish pete 30 2 nick wilson 26 3 juli williams 22.

5.Explain the notion of pandas plotting.

Ans:

Matplotlib is a Python plotting package that makes it simple to create two-dimensional plots from data stored in

a variety of data structures including lists, numpy arrays, and pandas dataframes. Matplotlib uses an object oriented approach to plotting.