**1) Explain three-dimensional data indexing.**

PYTHON ADVANCE ASSIGNMENT 2

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 a dataframe?**

Series can only contain single list with index, whereas dataframe can be made of more than one series or we can say that a dataframe is a collection of series that can be used to analyse the data

**3. What role does pandas play in data cleaning?**

Data scientists spend a huge amount of time cleaning datasets and getting them in the form in which they can work. It is an essential skill of Data Scientists to be able to work with messy data, missing values, inconsistent, noise, or nonsensical data. To work smoothly python provides a built-in module Pandas. Pandas is the popular Python library that is mainly used for data processing purposes like cleaning, manipulation, and analysis.Pandas stand for “Python Data Analysis Library”. It consists of classes to read, process, and write CSV data files. There are numerous Data cleaning tools present but, the Pandas library provides a really fast and efficient way to manage and explore data. It does that by providing us with Series and DataFrames, which help us not only to represent data efficiently but also manipulate it in various ways.

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

heres a very simple example to convert an array to a dataframe

1. import pandas as pd # Create the dataframe df = pd.DataFrame(numpy\_array)
2. df = pd.DataFrame(numpy\_array, columns=['digits', 'words']) ...
3. df = pd.DataFrame(numpy\_array, index=['day1', 'day2', 'day3', 'day4'], columns=['digits', 'words'])

**5. Explain the notion of pandas plotting.**

Pandas uses the plot() method to create diagrams.

We can use Pyplot, a submodule of the Matplotlib library to visualize the diagram on the screen.