1. Explain three-dimensional data indexing
   1. Array indexing and slicing are important parts in data analysis and many different types of mathematical operations we always do not work with a whole array or matrix or data frame array indexing is most important when we work with a subset of an array
   2. Semantic queries on indexed objects allow the reuse of the 3d scenes the continue evolution of computing capability of desktop computer is also a factor that facilitates the large development of 3D information contact the construction of 3D information constant the construction of a 3D scene is a complex and time consuming task thus being able to reuse the 3D scenes is a very important issue for the multimedia.

2)what’s the difference between a series and a data frame?

A) series is a type of list which can take integer values ,string values, double value and more series can only contains single list with index Where as data frame can be made of more than one series or we can say that a dataframes is a collection of series that can be used to analyse the data

3)what role does pandas play in data cleaning?

A) overtime companies produce and collect a massive amount of data depending on the company this can come in many different forms such as user generated content job applicant data, log, posts , sensor data and pay roll Transaction due to the immense number of source systems that can generate data and the number of people that contribute to data generation we can never goarontee that the data we are receiving is a clean record these records may be incomplete due to missing attributes they may have an incorrect spelling for user entered text fields or they may have an incorrect value such as a. Data of birth in the future in order to get an understanding of which aspects of the data set need cleaning we first need to see what data we are dealing with the best way to do this is by using pandas built in functions info()& describe ()

Pandas offers a diverge range of built in functions that can be used to clean and manipulate datasets prior to analysis it can allow you to drop incomplete rows and columns,fill missing values and improve the readability of the dataset through category renaming

4)**How do you see pandas to make a dataframe out of n- dimensional arrays**

* A)As we know python is great language for doing data analysis primarily because of the fantastic ecosystem of data centric python packages.pandas is one of those packages and make importing and analyzing data much easier
* Pandas dataframe can be achieved in multiple ways in the article we will learn how to create a dataframe using two dimensional
* Panel,pandas,data structure for 3D arrays we always a second class datastructure to focus more on its core functionally built developers to focus more on its core functionality built around the data frame to allow pandas developers to focus more on its core functionally built around it

**5)Explain the notation of pandas plotting?**

A) 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