CLASS 6 27-05-2021

**QUESTIONS**

👉 Define Python Pandas  
👉 What Are The Different Types Of Data Structures In Pandas?  
👉 Define Dataframe In Pandas  
👉 How Can You Create An Empty Dataframe In Pandas?  
👉 What Are The Most Important Features Of The Pandas Library?  
👉 What Is Groupby Function In Pandas?

**ANSWERS**

1. **Pandas** is an open source Python package that is most widely used for data science/data analysis and machine learning tasks. It is built on top of another package named Numpy, which provides support for multi-dimensional arrays.

2 There are three main data structures in pandas:

* Series — 1D.
* DataFrame — 2D.
* Panel — 3D.

3. **Pandas DataFrame** is two-dimensional size-mutable, potentially heterogeneous tabular data structure with labelled axes (rows and columns).

4. Use pandas. DataFrame() to create an **empty** **DataFrame** with column names. Call pandas. DataFrame(columns = column\_names) with column set to a list of strings column\_names to create an empty DataFrame with column\_names .

5. **Key Features of Pandas**

Fast and efficient DataFrame object with default and customized indexing. Tools for loading data into in-memory data objects from different file formats. Data alignment and integrated handling of missing data. Reshaping and pivoting of date sets.

6. Using **size** and **itemsize** attributes of NumPy array. **size**: This attribute gives the number of elements present in the NumPy array. **itemsize**: This attribute gives the memory size of one element of NumPy array in bytes.

7. **Pandas** is mainly used for data analysis. Pandas allows importing data from various file formats such as comma-separated values, JSON, SQL, Microsoft Excel. Pandas allows various data manipulation operations such as merging, reshaping, selecting, as well as data cleaning, and data wrangling features.

8. **Series** is a one-dimensional labeled array capable of holding data of any type (integer, string, float, python objects, etc.). The axis labels are collectively called index.