ASSIGNMENT 2

1. What Are the Most Important Features Of The Pandas Library?

ANSWER**:-**

Most Important Features of the Pandas Library

The Pandas library in Python is widely used for data analysis and manipulation. Its key features include:

- **Data Structures:** Provides two primary data structures: Series (1D labeled array) and DataFrame (2D labeled data structure with columns of potentially different types), which allow handling structured data efficiently.
- **Data Cleaning and Handling Missing Data:** Offers functions to detect, replace, and fill missing values, which is critical for data cleaning.
- **Data Manipulation:** Allows flexible reshaping, pivoting, slicing, and filtering of data. Supports merging, joining, and concatenating multiple datasets.
- **Aggregation and Grouping:** Facilitates summarizing data by grouping based on certain criteria, useful for data analysis.
- **Data Visualization Integration:** Integrates well with visualization libraries, such as Matplotlib and Seaborn, making it easy to plot data directly.
- **File Handling:** Supports reading from and writing to a variety of file formats, including CSV, Excel, SQL, JSON, and more.

These features make Pandas a powerful and essential tool for data processing and analysis.

2. Explain how to create a series from dictionary in Pandas?

ANSWER:-

Creating a Series from a Dictionary in Pandas

A Series in Pandas can be created easily from a Python dictionary. In this context, the dictionary keys will become the Series index, and the dictionary values will become the Series data.

Here's how to do

```
import pandas as pd

# Example dictionary

data = {'apple': 10, 'banana': 20, 'cherry': 15}

# Creating a Series from the dictionary

fruit_series = pd.Series(data)

print(fruit_series)
```

Output:

```
apple     10
banana    20
cherry    15
dtype: int64
```

In this example:

- The keys of the dictionary ('apple', 'banana', 'cherry') become the Series index.
- The values (10, 20, 15) become the data points within the Series.