SERIES
VIVA QUESTIONS

1. **What is Pandas?**
   Pandas is a software **library** for the **Python** programming language written by Wes McKinney for data manipulation and analysis. The name Pandas is derived from the term "Panel Data". It is an open source and free to use.

2. **Compare Series, DataFrames and Panel?**

Data Structure	Dimensions	Description
Series	1	1D labeled homogeneous, data-mutable, size-immutable array.
Data Frames	2	2D labeled heterogeneous, data-mutable, size-mutable array.
Panel	3	3D labeled, data-mutable, size-mutable array.

3. **What is a series?**

   - Series is a one-dimensional labeled array capable of holding homogenous data of any type (integer, string, float etc.).
   - The data labels in series are numeric starting from 0 by default. The data labels are called as indexes.
   - The data in series is mutable i.e. it can be changed but the size of series is immutable i.e. size of the series cannot be changed.

4. **Name the parameter which is used to give name to the series?**

   name parameter in Series method

5. **How can we create customized index values in series?**

   We can create customized index values using index parameter in Series method.

6. **What happens when dictionary is used to create a series?**
   Dictionary keys are used to construct indexes and dictionary values are used to make elements of a series.

7. **What is the difference between Positional indexes and Label indexes?**
   Positional indexes are used to extract a data element present at a particular index location from a series. The index operator [ ] along with the index number can be used to access an element in a series.

   Label indexes are used to extract a data element present at a particular index label from a series. The index operator [ ] along with the label index can be used to access an element in a series.

8. **What is a Boolean indexing?**
   Boolean indexing is a type of indexing which uses actual values of the data in the Series. Using Boolean indexing we can filter data by applying certain condition on data using relational operators like ==, >, <, <=, >= and logical operators like ~(not), &(and) and |(or).

9. **Consider a series having values:** 2,5,9,12,34,56. What is the difference between print(ser1>10) and print(ser1[ser1>10])?

print(ser1>10) Here, entire series is displayed with False value at places where value<=10 and True value at places where value>10.	0 False 1 False 2 False 3 True 4 True 5 True dtype: bool
print(ser1[ser1>10]) Here, elements with value>10 are displayed.	3 12 4 34 5 56 dtype: int64

10. **What is the difference between head() and tail() functions?**
    The ***head function*** is used to return a specified number of rows from the beginning of a Series.
    The ***tail function*** is used to return a specified number of rows from the end of a Series.

11. **By default how many rows are displayed by head() and tail() functions?**
    5

12. **Name the functions used to perform the following operations on series:**

Operations on series	**Functions**
To add all values present in a series	sum()
To multiply all values present in a series	prod()

To find the mean of all values present in a series	mean()
To find the minimum of all values present in a series	min()
To find the maximum of all values present in a series	max()
To count the number of values, present in a series	count()
To return the sorted series(ascending=True/False)	sort_values()
To check for missing data on Series object	isnull()