Informatics Practices: XII

Assignment-5

Question 1: Create a Pandas Series from a Python list [10, 20, 30, 40, 50]. Assign custom index labels ['a', 'b', 'c', 'd', 'e'] to the series.

Python - Series

Question 2: Using the Series created in Question 1, access:

- a) The element with index c.
- b) All elements from b to e (inclusive).

Question 3: Create two Pandas Series with values [1, 2, 3, 4, 5] and [5, 4, 3, 2, 1]. Perform element-wise addition, subtraction, and multiplication.

Question 4: Create a Pandas Series with random integers between 1 and 50 (size: 10). Extract all values greater than 25 from the Series.

Question 5: Create a Pandas Series from the dictionary: {'Physics': 85, 'Math': 90, 'Chemistry': 78, 'Biology': 92}. Retrieve the value for Math.

Question 6: Create a Pandas Series with values [10, 20, None, 40, 50]. Replace the missing value (None) with the mean of the Series.

Question 7: Create a Pandas Series with random integers between 1 and 100 (size: 8). Sort the Series: a) In ascending order of values.

b) By index.

Question 8: Create a Pandas Series with values [10, 20, 30, 40, 50]. Compute the logarithm (base 10) and cumulative sum of the Series.

Question 9: Create a Pandas Series with values [10, 20, 20, 30, 40, 40, 40].

a) Find all unique values.

b) Count the occurrence of each unique value.

Question 10: Create two Pandas Series:

- Series 1: Index = ['a', 'b', 'c', 'd'], Values = [10, 20, 30, 40]
- Series 2: Index = ['b', 'c', 'd', 'e'], Values = [50, 60, 70, 80]
- Add the two Series and observe how missing indices are handled.

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