Problem 4 (10 pts.)

When answering a numerical value, enter only the numerical value in the answer box. No unit required. If it says “up to N decimal places”, please answer by rounding off the N+1 decimal places.

Answer the following questions by referring to dm-end1-4.ipynb.

1.

For data x=[1.0, 1.2, 1.5], weights are given as w=[0.2, 0.5, 0.6]. At this time, find the weighted average of the data x up to the second decimal place.

2.

Given two ndarrays (numpy arrays) x and w of the same length, define a function wmean() that returns the weighted average of x by w as a return value. In order to complete the function wmean(), answer the code that applies to blank (2) in the notebook.

3.

Define a function called dic_wmean() that returns the weighted average of the numerical values stored in the dictionary dic with the weight w. In the notebook, the blank (3) will have a code for converting the dictionary dic into a Series of pandas. Answer the code in (3).

4.

When you create a function correctly and run the entire notebook, answer in what order the functions will be executed.

- (unselected)
- The order of wmean() and dic_wmean()
- The order of dic_wmean() and wmean()
- Only wmean() is executed
- Only dic_wmean() is executed

5.

When ndarray w has [0.6, 0.1, 0.3], answer the return value of dic_wmean({'A': 10,'B': 2,'C':4}, w) to the first decimal place.

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