Session 5

Assignment 4 Question

Session 5: Assignment 4

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1. Introduction

This assignment will help you to consolidate the concepts learnt in the session.

2. Problem Statement

Given a sequence of n values x1, x2, ..., xn and a window size k>0, the k-th moving average of the given sequence is defined as follows:

The moving average sequence has n-k+1 elements as shown below.

The moving averages with k=4 of a ten-value sequence (n=10) is shown below

```
  i    1   2   3   4   5   6   7   8   9 10
===== == == == == == == == == == == ==
Input  10  20  30  40  50  60  70  80  90 100
y1     25 = (10+20+30+40)/4
y2        35 = (20+30+40+50)/4
y3           45 = (30+40+50+60)/4
y4              55 = (40+50+60+70)/4
y5                 65 = (50+60+70+80)/4
y6                    75 = (60+70+80+90)/4
y7                       85 = (70+80+90+100)/4
```

Thus, the moving average sequence has n-k+1=10-4+1=7 values.

Problem Statement

Write a function to find moving average in an array over a window:

Test it over [3, 5, 7, 2, 8, 10, 11, 65, 72, 81, 99, 100, 150] and window of 3.

Note: Solution submitted via github must contain all the detailed steps.

3. Output

N/A