



Session 7

Assignment 1 Question

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Table of Contents

1. Introduction

2. Problem Statement

3. Output

1. Introduction

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

2. Problem Statement

Given a sequence of n values x_1, x_2, \dots, x_n 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