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.

Solution:

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=3 of a ten-value sequence (n=13) is shown below

Thus, the moving average sequence has n-k+1=13-3+1=11 values.

i 1 2 3 4 5 6 7 8 9 10 11 12 13

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Input 3 5 7 2 8 10 11 65 72 81 99 100 150

y1 5 = (3+5+7)/3

y2 4.6 = (5+7+2)/3

y3 5.6 = (7+2+8)/3

y4 6.6 = (2+8+10)/3

y5 9.6 = (8+10+11)/3

y6 28.6 = (10+11+65)/3

y7 49.3 = (11+65+72)/3

y8 72.6 = (65 + 72 + 81)/3

y9 84 = ( 72 + 81+99)/3

y10 93.3=(81+99+100)/3

y11 116.3 = (99 + 100 + 150)/3

