CS1010E Practice Exercise: Moving Average

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Moving Average

Given a sequence of values, the n-moving average is a new sequence obtained by taking averages of n values over the given sequence.

For example, given the sequence `X={1,2,3,4,5}`,

- the 2-moving average of X is `{(1+2)/2,(2+3)/2,(3+4)/2,(4+5)/2}`
- the 3-moving average of X is `{(1+2+3)/3,(2+3+4)/3,(3+4+5)/3}`

Write a program that reads in the value of `n (1 ≤ n ≤ 10)` and outputs the n-moving average of the fix sequence

```
{4,9,-7,5,-8,-3,0,8,-9,2}
```

There is no need to store the new sequence in an array.

Sample Runs

The following are sample runs of the program. User input is underlined. Ensure that the last line of output is followed by a newline character.

- Sample run #1:

```
Enter n: 2
The 2-moving average is:
6.500000
1.000000
-1.000000
-1.500000
-5.500000
-1.500000
4.000000
-0.500000
-3.500000
```

- Sample run #2:

```
Enter n: 3
The 3-moving average is:
2.000000
2.333333
-3.333333
-2.000000
-3.666667
1.666667
```

```
-0.333333
0.333333
```

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