



William Ting <williamdjting@gmail.com>

FW: Moving Average

1 message

William Ting <william_ting_2@sfu.ca>
To: "williamdjting@gmail.com" <williamdjting@gmail.com>

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From: Daily Byte
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To: William Ting
Subject: Moving Average

The Daily Byte

Good morning,

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Today's Byte

This question is asked by Microsoft. Design a class, `MovingAverage`, which contains a method, `next` that is responsible for returning the moving average from a stream of integers.

Note: a moving average is the average of a subset of data at a given point in time.

Ex: Given the following series of events...

```
// i.e. the moving average has a capacity of 3.  
MovingAverage movingAverage = new MovingAverage(3);  
m.next(3) returns 3 because (3 / 1) = 3  
m.next(5) returns 4 because (3 + 5) / 2 = 4  
m.next(7) = returns 5 because (3 + 5 + 7) / 3 = 5  
m.next(6) = returns 6 because (5 + 7 + 6) / 3 = 6
```

MovingAverage class definition:

```
public class MovingAverage {  
    // TODO: declare any instance variables you require.  
  
    /**  
     * Initializes a MovingAverage with a  
     * capacity of `size`.  
     */  
    public MovingAverage(int size) {  
        // TODO: initialize your MovingAverage.  
    }  
  
    /**  
     * Adds `val` to the stream of numbers  
     * and returns the current average of the numbers.  
     */  
    public double next(int val) {  
        // TODO: implement this method.  
    }  
  
}
```

Thanks,
The Daily Byte

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