

Description Solution Submissions Discuss (123)

```

        if (i > k - 1) { win -= calories[i - k]; }
        if (win < lower) { --point; }
        else if (win > upper) { ++point; }
    }
    return point;
}

```

```

// even a k sequence already.
// more than k sequence already

```

Python 3

```

def dietPlanPerformance(self, calories: List[int], k: int, lower: int, upper: int) -> int:
    point, win = 0, 0
    for i, calory in enumerate(calories):
        win += calory
        if i >= k - 1:
            if i > k - 1:
                win -= calories[i - k]
            if win < lower:
                point -= 1
            elif win > upper:
                point += 1
    return point

```

Analysis:

Time: $O(n)$, space: $O(1)$, where $n = \text{calories.length}$.

Note: Python 3 can be simplified as the follows at a space cost of $O(n)$, credit to @rostan:

```

def dietPlanPerformance(self, calories: List[int], k: int, lower: int, upper: int) -> int:
    point, win = 0, sum(calories[:k - 1]) # space cost  $O(k)$ 
    for i, calory in enumerate(calories[k - 1:], k - 1): # space cost  $O(n - k)$ 
        win += calory - (i >= k) * calories[i - k]
        point += (win > upper) - (win < lower)
    return point

```

Use `itertools.islice` to avoid space cost:

```

from itertools import islice

def dietPlanPerformance(self, calories: List[int], k: int, lower: int, upper: int) -> int:
    point, win = 0, sum(islice(calories, k - 1))
    for i, calory in enumerate(islice(calories, k - 1, None), k - 1):
        win += calory - (i >= k) * calories[i - k]
        point += (win > upper) - (win < lower)
    return point

```

Comments: 3

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Post



MichaelZ 633 September 2, 2019 6:36 AM

Similar idea in C++:

```

int dietPlanPerformance(vector<int>& calories, int k, int lower, int upper) {
    int res=0, sum=0;
    for(int i=0;i<calories.size();i++) {
        sum+=calories[i];
        if(i>=k-1) {
            if(i>=k) sum-=calories[i-k];
            if(sum<lower) res--;
            else if(sum>upper) res++;
        }
    }
    return res;
}

```

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kris6689 37 May 10, 2020 7:56 AM

if (i > k - 1) { win -= calories[i - k]; } Can someone explain this case with an example?

0 Reply



gopalyadav2108 4 September 1, 2019 1:26 PM

thanks, that was helpful

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