

## 转载 Feel Good (dp)

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### Feel Good

<https://cn.vjudge.net/problem/POJ-2796>

Bill is developing a new mathematical theory for human emotions. His recent investigations are dedicated to studying how good or bad d people' s memories about some period of life.

A new idea Bill has recently developed assigns a non-negative integer value to each day of human life.

Bill calls this value the emotional value of the day. The greater the emotional value is, the better the day was. Bill suggests that the value o period of human life is proportional to the sum of the emotional values of the days in the given period, multiplied by the smallest emotio the day in it. This schema reflects that good on average period can be greatly spoiled by one very bad day.

Now Bill is planning to investigate his own life and find the period of his life that had the greatest value. Help him to do so.

### Input

The first line of the input contains n - the number of days of Bill' s life he is planning to investigate ( $1 \leq n \leq 100\,000$ ). The rest of the fi integer numbers  $a_1, a_2, \dots$  ranging from 0 to  $10^6$  - the emotional values of the days. Numbers are separated by spaces and/or line bre

### Output

Print the greatest value of some period of Bill' s life in the first line. And on the second line print two numbers l and r such that the perio to r-th day of Bill' s life (inclusive) has the greatest possible value. If there are multiple periods with the greatest possible value, then print them.

### Sample Input

```
6
3 1 6 4 5 2
```

### Sample Output

```
60
3 5
```

### 思路

对于区间里的每个数，找使其为区间的最小数的最大区间，即该点能往左右最远延伸到的地方

### code

```
1 #include <cstdio>
2 #define maxn 100010
3 using namespace std;
4 int a[maxn], l[maxn], r[maxn];
5 long long pre[maxn];
6 int main(){
7     int n;
8     scanf("%d", &n);
9     for(int i=1;i<=n;++i) {scanf("%d", &a[i]); pre[i]=pre[i-1]+a[i];}
10    l[1]=0;
11    for(int i=2;i<=n;++i){
12        int p=i-1;
13        while(p && a[p]>=a[i]) p=l[p];
14        l[i]=p;
15    }
16    r[n]=n+1;
17    for(int i=n-1;i>=0;--i){
18        int p=i+1;
19        while(p!=n+1 && a[p]>=a[i]) p=r[p];
20        r[i]=p;
```

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```
21 | }
22 | long long ans=-1;
23 | int ll,rr;
24 | for(int i=1;i<=n;++i){
25 |     long long temp=(pre[ r[i]-1 ]-pre[ l[i] ])*a[i];
26 |     if(temp>ans) ans=temp,ll=l[i]+1,rr=r[i]-1;
27 | }
28 | printf("%lld\n", ans);
29 | printf("%d %d\n", ll, rr);
30 | return 0;
31 | }
32 |
```

#### 参考

<https://www.cnblogs.com/kkkkahlua/p/8344118.html>

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