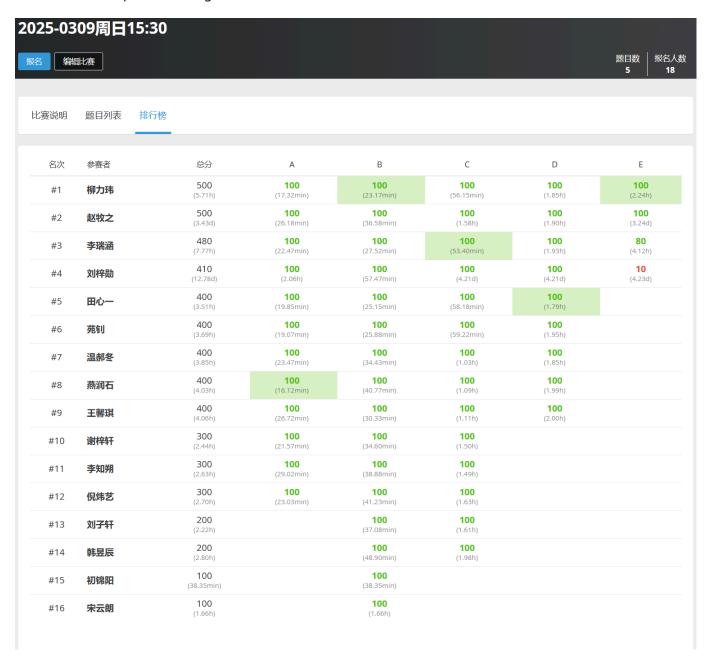
一维前缀和

人员

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上周作业检查

上周作业链接: https://www.luogu.com.cn/contest/235071



作业

https://www.luogu.com.cn/contest/236358 (课上讲了 A ~ D 题, 课后作业是 E 题)

课堂表现

今天新讲了一维前缀和的内容,整体内容不是很难,同学们课上整体做题表现都不错,课下也要好好复习。

课堂内容

T504031 回文字符串 (palindrome)

```
#include <bits/stdc++.h>
using namespace std;
const int maxn = 10000 + 5;
char s[maxn];
bool check(string a, string b) {
    if (a == b) return true;
    reverse(a.begin(), a.end());
    if (a == b) return true;
    return false;
}
int main()
{
    cin >> (s+1);
    int n = strlen(s+1);
    int cnt = 0;
    string a, b;
    for (int i = 1, j = n; i <= j; i++, j--) {
        a += s[i];
        b = s[j]+b;
        if (i == j) break;
        if (check(a,b)) {
            cnt += 2;
            a = "", b = "";
        }
    }
    if (a!="") cnt++;
    if (cnt <= 1) cout << "NO" << endl;</pre>
    else {
        cout << "YES" << endl;</pre>
        cout << cnt << endl;</pre>
    return 0;
}
```

B3612 【深进1.例1】求区间和

```
#include <bits/stdc++.h>
using namespace std;
const int maxn = 1e5 + 5;
int w[maxn], p[maxn];
int sum(int 1, int r) { return (l<=r?p[r]-p[l-1]:0); }
int main()
{
  int n; cin >> n;
  for (int i = 1; i \le n; ++i) cin >> w[i], p[i] = p[i-1] + w[i];
 int m; cin >> m;
 while (m -- ) {
   int 1, r; cin >> 1 >> r;
   cout << sum(l,r) << endl;</pre>
  }
  return 0;
}
```

P5638【CSGRound2】光骓者的荣耀

```
#include <bits/stdc++.h>
using namespace std;
typedef long long LL;
const int maxn = 1e6 + 5;
LL w[maxn], p[maxn];
LL sum(int l, int r) { return (l < r?p[r] - p[l-1] : 0); }
int main()
  int n, k; cin >> n >> k;
  for (int i = 1; i <= n-1; ++i) cin >> w[i], p[i] = p[i-1] + w[i];
 if (k \ge n-1) { cout << 0 << endl; return 0; }
 LL res = p[n-1], maxx = 0;
 for (int i = 1; i <= n-1; ++i) {
   int j = i + k - 1;
   maxx = max(maxx, sum(i, j));
  }
 cout << res - maxx << endl;</pre>
  return 0;
}
```

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P8772 [蓝桥杯 2022 省 A] 求和

```
#include <bits/stdc++.h>

using namespace std;

typedef long long LL;
const int maxn = 2e5 + 5;
int w[maxn]; LL p[maxn];

LL sum(int 1, int r) { return (l<=r?p[r]-p[1-1]:0); }

int main()
{
   int n; cin >> n;
   for (int i = 1; i <= n; ++i) cin >> w[i], p[i] = p[i-1] + w[i];

   LL res = 0;
   for (int i = 1; i <= n-1; ++i) res += w[i] * sum(i+1, n);
   cout << res << endl;
   return 0;
}</pre>
```

P1115 最大子段和

```
#include <bits/stdc++.h>
using namespace std;
const int maxn = 2e5 + 5;
int w[maxn], p[maxn];
int p_min[maxn];
int main()
{
 int n; cin >> n;
 int res = -1000;
 for (int i = 1; i <= n; ++i) {
   cin >> w[i], p[i] = p[i-1] + w[i];
    p_{\min}[i] = \min(p_{\min}[i-1], p[i]);
    res = max(res, p[i] - p_min[i-1]);
 cout << res << endl;</pre>
  return 0;
}
```