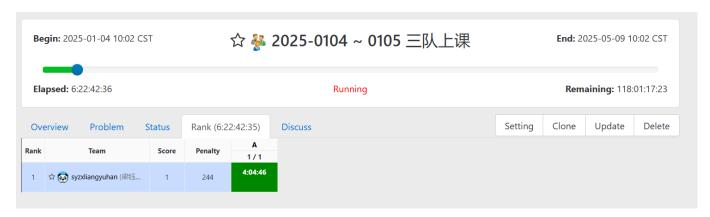
杂题混练

人员

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上周作业检查



作业

https://vjudge.net/contest/684912

课堂表现

今天课上的 2 道题目都相对复杂一些,有许多同学课上没做出来,课下一定要抽时间补完这 2 道题目。

课堂内容

CF1016C Vasya And The Mushrooms

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

using namespace std;

typedef long long LL;
const int maxn = 3e5 + 5;
int w[3][maxn];

LL p[3][maxn], pV[3][maxn], sV[3][maxn];

LL get_pre_sum(int row, int 1, int r, LL c[][maxn]) {
   return (l>r ? 0 : c[row][r] - c[row][l-1]);
}

LL get_suf_sum(int row, int 1, int r, LL c[][maxn]) {
   return (l>r ? 0 : c[row][l] - c[row][r+1]);
}

LL pre_value(int row, int 1, int r, int id) {
```

```
return get_pre_sum(row,l,r,pV) + (id-l)*get_pre_sum(row,l,r,p);
}
LL suf_value(int row, int l, int r, int id) {
 return get suf sum(row,1,r,sV) + (id-1)*get pre sum(row,1,r,p);
}
LL calc(int n, int x, int y, int id) {
  LL res = 0;
 if (x == 1) {
   if (y&1) {
      // (1,y) ~ (1,n) (2,y) ~ (2,n)
     res = pre_value(1,y,n,id) + suf_value(2,y,n,id+n-y+1);
    } else {
      // (1,y) ~ (1,n) (2,y+1) ~ (2,n)
      res = pre_value(1,y,n,id) + suf_value(2,y+1,n,id+n-y+1);
    }
 } else {
   if (y&1) {
      // (2,y) ~ (2,n) (1,y+1) ~ (1,n)
     res = pre_value(2,y,n,id) + suf_value(1,y+1,n,id+n-y+1);
    } else {
      // (2,y) ~ (2,n) (1,y) ~ (1,n)
     res = pre_value(2,y,n,id) + suf_value(1,y,n,id+n-y+1);
    }
  }
 return res;
}
int main()
 int n; cin >> n;
 for (int i = 1; i <= 2; ++i) {
   for (int j = 1; j <= n; ++j) cin >> w[i][j];
 for (int i = 1; i <= 2; ++i) {
   for (int j = 1; j <= n; ++j) {
      p[i][j] = p[i][j-1] + w[i][j];
      pV[i][j] = pV[i][j-1] + 1LL*j*w[i][j];
    for (int j = n; j >= 1; --j) {
      SV[i][j] = SV[i][j+1] + 1LL*(n-j+1)*w[i][j];
    }
  }
  int id = 0;
  LL res = 0, sum = 0;
  for (int j = 1; j <= n; ++j) {
   if (j&1) {
     for (int i = 1; i \le 2; ++i) {
        res = max(res, sum + calc(n, i, j, id));
        sum += 1LL*id*w[i][j]; ++id;
      }
```

```
} else {
    for (int i = 2; i >= 1; --i) {
        res = max(res, sum + calc(n, i, j, id));
        sum += 1LL*id*w[i][j]; ++id;
    }
    }
} cout << res << endl;
return 0;
}</pre>
```

CF1437E Make It Increasing

```
#include <bits/stdc++.h>
using namespace std;
const int maxn = 5e5 + 5;
const int inf = 0x3f3f3f3f;
int a[maxn], b[maxn];
int LIS(int 1, int r) {
 int low = a[1], up = a[r];
 vector<int> vec;
 for (int i = 1; i <= r; ++i) {
   if (a[i]<low || a[i]>up) continue;
   if (vec.empty() || a[i]>=vec.back()) vec.push_back(a[i]);
    else *upper_bound(vec.begin(), vec.end(), a[i]) = a[i];
  }
 return vec.size();
}
int main()
{
 int n, m; cin >> n >> m;
 for (int i = 1; i <= n; ++i) cin >> a[i], a[i] -= i;
  for (int i = 1; i <= m; ++i) cin >> b[i];
  for (int i = 2; i <= m; ++i) {
   if (a[b[i-1]] > a[b[i]]) { cout << -1 << endl; return 0; }
  }
  b[0] = 0, b[m+1] = n+1;
  a[0] = -\inf, a[n+1] = \inf;
  int res = 0;
  for (int i = 0; i <= m; ++i) res += (b[i+1]-b[i]+1) - LIS(b[i], b[i+1]);
  cout << res << endl;</pre>
```

```
return 0;
}
```