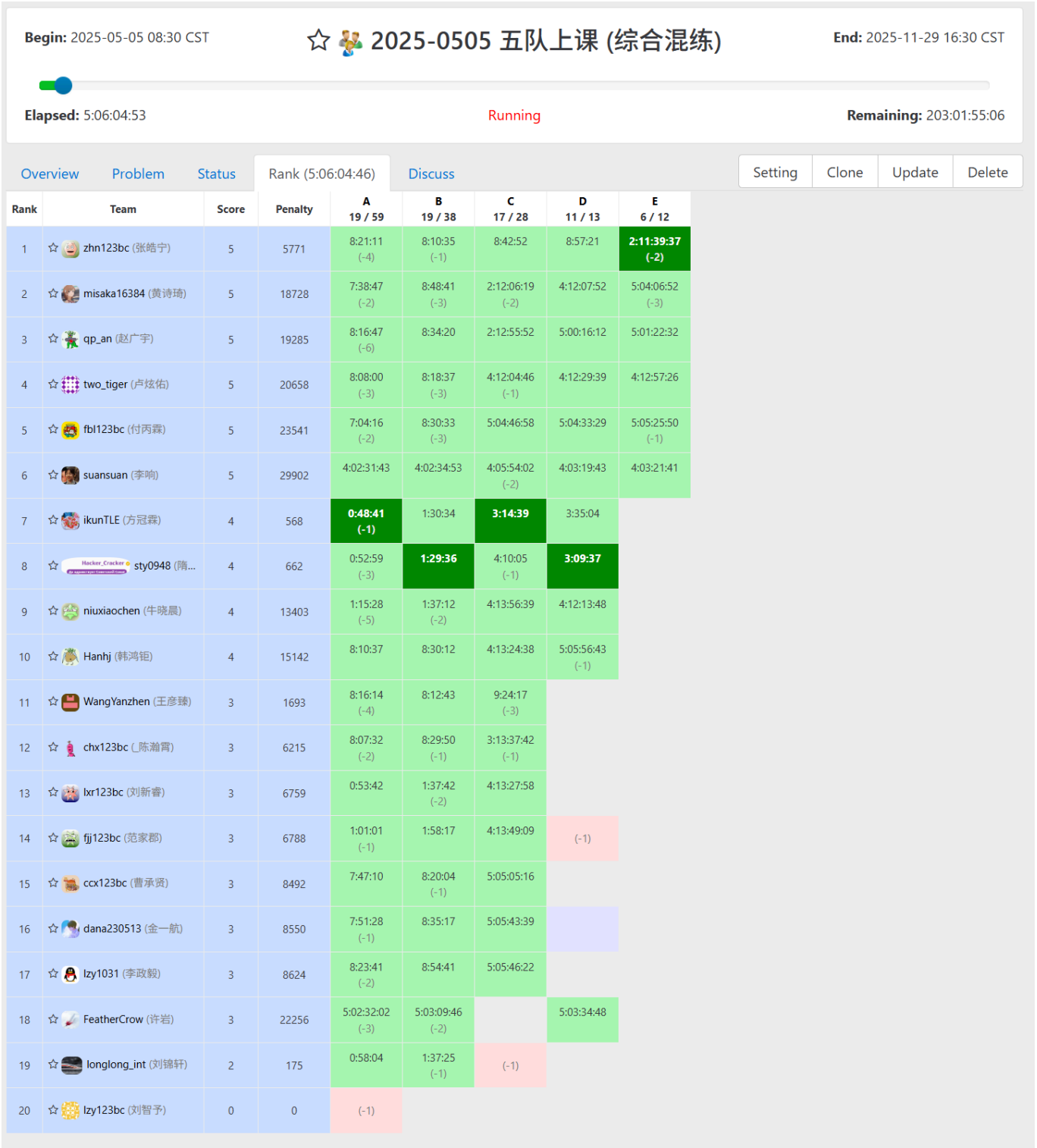
综合混练

人员

赵广宇、金一航、曹承贤、黄诗琦、卢炫佑、张皓宁、李政毅、付丙霖、韩鸿钜、王彦臻、陈瀚霄、刘智予、方冠霖、许岩 到课

上周作业检查

上周作业链接: https://vjudge.net/contest/714711



Begin: 2025-05-05 08:30 CST

☆ 2025-0505 五队上课 (综合混练)

End: 2025-11-29 16:30 CST

Elapsed: 5:06:04:53 Running **Remaining:** 203:01:55:06

Overview Problem Status Rank (5:06:04:46) Discuss Setting Clone Update Delete

Rank	Team	Score	Penalty	A 19 / 59	B 19 / 38	C 17 / 28	D 11 / 13	E 6 / 12
1	☆ zhn123bc (张皓宁)	5	5771	8:21:11 (-4)	8:10:35 (-1)	8:42:52	8:57:21	**2:11:39:37 (-2)**
2	☆ misaka16384 (黄诗琦)	5	18728	7:38:47 (-2)	8:48:41 (-3)	2:12:06:19 (-2)	4:12:07:52	5:04:06:52 (-3)
3	☆ qp_an (赵广宇)	5	19285	8:16:47 (-6)	8:34:20	2:12:55:52	5:00:16:12	5:01:22:32
4	☆ two_tiger (卢炫佑)	5	20658	8:08:00 (-3)	8:18:37 (-3)	4:12:04:46 (-1)	4:12:29:39	4:12:57:26
5	☆ fbl123bc (付丙霖)	5	23541	7:04:16 (-2)	8:30:33 (-3)	5:04:46:58	5:04:33:29	5:05:25:50 (-1)
6	☆ suansuan (李响)	5	29902	4:02:31:43	4:02:34:53	4:05:54:02 (-2)	4:03:19:43	4:03:21:41
7	☆ ikunTLE (方冠霖)	4	568	**0:48:41 (-1)**	1:30:34	**3:14:39**	3:35:04	
8	☆ sty0948 (隋...	4	662	0:52:59 (-3)	**1:29:36**	4:10:05 (-1)	**3:09:37**	
9	☆ niuxiaochen (牛晓晨)	4	13403	1:15:28 (-5)	1:37:12 (-2)	4:13:56:39	4:12:13:48	
10	☆ Hanhj (韩鸿钜)	4	15142	8:10:37	8:30:12	4:13:24:38	5:05:56:43 (-1)	
11	☆ WangYanzhen (王彦臻)	3	1693	8:16:14 (-4)	8:12:43	9:24:17 (-3)		
12	☆ chx123bc (_陈瀚霄)	3	6215	8:07:32 (-2)	8:29:50 (-1)	3:13:37:42 (-1)		
13	☆ lxr123bc (刘新睿)	3	6759	0:53:42	1:37:42 (-2)	4:13:27:58		
14	☆ fjj123bc (范家郡)	3	6788	1:01:01 (-1)	1:58:17	4:13:49:09	(-1)	
15	☆ ccx123bc (曹承贤)	3	8492	7:47:10	8:20:04 (-1)	5:05:05:16		
16	☆ dana230513 (金一航)	3	8550	7:51:28 (-1)	8:35:17	5:05:43:39		
17	☆ lzy1031 (李政毅)	3	8624	8:23:41 (-2)	8:54:41	5:05:46:22		
18	☆ FeatherCrow (许岩)	3	22256	5:02:32:02 (-3)	5:03:09:46 (-2)		5:03:34:48	
19	☆ longlong_int (刘锦轩)	2	175	0:58:04	1:37:25 (-1)	(-1)		
20	☆ lzy123bc (刘智予)	0	0	(-1)				

作业

https://vjudge.net/contest/715752 (课上讲了 A ~ C 这些题, 课后作业是 D E F G 题)

课堂表现

同学们课上听讲都比较认真, 但是课上时间有限, 题目没有全做完, 课后同学们一定要花时间多做一做。

课堂内容

CF1900C Anji's Binary Tree

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

using namespace std;

const int maxn = 3e5 + 5;
char s[maxn];
int tr[maxn][2];

int dfs(int u) {
  if (tr[u][0]==0 && tr[u][1]==0) return 0;
  if (tr[u][0] == 0) return (s[u]!='R') + dfs(tr[u][1]);
  if (tr[u][1] == 0) return (s[u]!='L') + dfs(tr[u][0]);
  return min((s[u]!='R') + dfs(tr[u][1]), (s[u]!='L') + dfs(tr[u][0]));
}

void solve() {
  int n; cin >> n;

  cin >> (s+1);
  for (int i = 1; i <= n; ++i) cin >> tr[i][0] >> tr[i][1];

//  cout << "---------------------------- ";
  cout << dfs(1) << endl;
}

int main()
{
  int T; cin >> T;
  while (T -- ) solve();
  return 0;
}
```

CF448C Painting Fence

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

using namespace std;
```

```cpp
const int maxn = 5000 + 5;
int w[maxn];

int dfs(int l, int r) {  // 处理 [l,r] 最少需要几步
  if (l > r) return 0;

  int minn = 1e9+100;
  for (int i = l; i <= r; ++i) minn = min(minn, w[i]);
  for (int i = l; i <= r; ++i) w[i] -= minn;
  int pos = -1;
  for (int i = l; i <= r; ++i) {
    if (!w[i]) { pos = i; break; }
  }

  return min(minn+dfs(l,pos-1)+dfs(pos+1,r), r-l+1);
}

int main()
{
  int n; cin >> n;
  for (int i = 1; i <= n; ++i) cin >> w[i];
  cout << dfs(1, n) << endl;
  return 0;
}
```

B3637 最长上升子序列

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

using namespace std;

const int maxn = 1e6 + 5;

int main()
{
  int n; cin >> n;
  vector<int> vec;
  while (n -- ) {
    int x; cin >> x;
    if (vec.empty() || x>vec.back()) vec.push_back(x);
    else *lower_bound(vec.begin(), vec.end(),x) = x;
  }

  cout << vec.size() << endl;
  return 0;
}
```

CF1153D Serval and Rooted Tree

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

using namespace std;

const int maxn = 3e5 + 5;
vector<int> vec[maxn];
int w[maxn], f[maxn];
int n, sz = 0;

void dfs(int u, int mid) {
  if (vec[u].empty()) { f[u] = 1; return; }

  for (int i : vec[u]) dfs(i, mid);

  int res;
  if (w[u] == 1) {
    res = 1e9;
    for (int i : vec[u]) res = min(res, f[i]);
  } else {
    res = 0;
    for (int i : vec[u]) res += f[i];
  }
  f[u] = res;
}

bool check(int mid) {
  memset(f, 0, sizeof(f));
  dfs(1, mid);
  return f[1] <= sz-mid+1;
}

int main()
{
  cin >> n;
  for (int i = 1; i <= n; ++i) cin >> w[i];
  for (int i = 2; i <= n; ++i) {
    int x; cin >> x; vec[x].push_back(i);
  }
  for (int i = 1; i <= n; ++i) {
    if (vec[i].empty()) ++sz;
  }

  int l = 1, r = sz;
  while (l <= r) {
    int mid = (l + r) / 2;
    if (check(mid)) l = mid+1;
    else r = mid-1;
  }
  cout << r << endl;
  return 0;
}
```

CF1286A Garland

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

using namespace std;

const int maxn = 100 + 5;
int w[maxn];
int f[maxn][maxn][2];

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

  memset(f, 0x3f, sizeof(f));
  f[0][0][0] = f[0][0][1] = 0;
  for (int i = 1; i <= n; ++i) {
    for (int j = 0; j <= i; ++j) {
      if (w[i]==0 || w[i]%2 == 1) {
        if (j >= 1) f[i][j][1] = min(f[i-1][j-1][0]+1, f[i-1][j-1][1]);
      }
      if (w[i]==0 || w[i]%2 == 0) {
        f[i][j][0] = min(f[i-1][j][0], f[i-1][j][1]+1);
      }
    }
  }

  cout << min(f[n][(n+1)/2][0], f[n][(n+1)/2][1]) << endl;
  return 0;
}
```