杂题混练

人员

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上周作业检查

Rank	Team	Score	Penalty	A 4 / 11	B 2 / 32	C 3 / 3
1	☆ syzxliangyuhan (梁钰...	3	3688	0:39:02	1:04:49:48 (-3)	1:06:59:23
2	☆ ssine233 (穆鹏宇)	3	15182	0:52:11 (-4)	5:12:10:16 (-19)	4:16:19:57
3	☆ Cst_AK_IOI (程晟泰)	2	19233	0:53:18 (-3)	(-4)	13:06:40:10
4	☆ James00123 (杨洋)	1	1768	1:05:28:49	(-4)	

作业

https://vjudge.net/contest/691785

课堂表现

同学们课上做题, 有些细节问题把握不好, 以后要注意细节问题。

课堂内容

Gym - 102769E

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

using namespace std;

typedef long long LL;
const int maxn = 2e5 + 5;
struct node {
  int value, id;
  bool operator < (const node& p) const { return value < p.value; }
} w[maxn*2];

int solve() {
  int n, p; cin >> n >> p;
  for (int i = 1; i <= n; ++i) {
```

```
    int a, b; cin >> a >> b;
    w[i] = {a, i}, w[n+i] = {b, i};
  }
  sort(w+1, w+2*n+1);

  map<int, int> mp1, mp2;
  int res = 0, cnt = 0;
  for (int i = 1, j = 1; j <= 2*n; ++j) {
    mp1[w[j].id]++, mp2[w[j].id]++;
    if (mp2[w[j].id] == 1) ++cnt;
    while (i<=j && (LL)w[i].value*100<(LL)w[j].value*p) {
      mp1[w[i].id]--;
      if (mp1[w[i].id] == 0) mp1.erase(w[i].id);
      ++i;
    }
    if (cnt >= n) res = max(res, (int)mp1.size());
  }
  return res;
}

int main()
{
  ios::sync_with_stdio(false);
  cin.tie(0);
  int T; cin >> T;
  for (int i = 1; i <= T; ++i) cout << "Case #" << i << ": " << solve() << "\n";
  return 0;
}
```

CF335B Palindrome

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

using namespace std;

const int N = 5e4 + 5, M = 2600 + 5;
char s[N];
int f[M][M];

string dfs(int l, int r, int len) {
  if (len == 0) return "";
  if (len == 1) { string t; t += s[l]; return t; }


  if (s[l]==s[r] && f[l][r]==f[l+1][r-1]+2) return s[l] + dfs(l+1,r-1,len-2) +
s[r];
  if (f[l][r] == f[l][r-1]) return dfs(l,r-1,len);
  return dfs(l+1,r,len);
}

int main()
```

```
{
  cin >> (s+1);
  int n = strlen(s+1);
  if (n >= 2600) {
    map<char, int> mp;
    for (int i = 1; i <= n; ++i) mp[s[i]]++;
    for (char i = 'a'; i <= 'z'; ++i) {
      if (mp[i] >= 100) {
        for (int j = 1; j <= 100; ++j) cout << i;
        cout << endl;
        return 0;
      }
    }
  }

  for (int i = 1; i <= n; ++i) f[i][i] = 1;
  for (int len = 2; len <= n; ++len) {
    for (int i = 1; i+len-1 <= n; ++i) {
      int j = i + len - 1;
      f[i][j] = max(f[i][j-1], f[i+1][j]);
      if (s[i] == s[j]) f[i][j] = max(f[i][j], f[i+1][j-1]+2);
    }
  }

  cout << dfs(1, n, min(100, f[1][n])) << endl;
  return 0;
}
```

CF1630B Range and Partition

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

using namespace std;

const int maxn = 2e5 + 5;
int w[maxn], a[maxn];

void solve() {
  int n, k; cin >> n >> k;
  for (int i = 1; i <= n; ++i) cin >> w[i], a[i] = w[i];
  sort(w+1, w+n+1);

  int res = 1e9, resl = -1, resr = -1;
  for (int i = 1, j = 1; j <= n; ++j) {
    int len1 = j-i+1;
    int len2 = n - len1;
    if (len1 - len2 >= k) {
      if (w[j] - w[i] < res) {
        res = w[j] - w[i], resl = w[i], resr = w[j];
      }
      ++i;
```

```
    }
  }

  cout << resl << " " << resr << endl;
  if (k == 1) { cout << 1 << " " << n << endl; return; }

  int sum1 = 0, sum2 = 0, last = 1;
  for (int i = 1; i <= n; ++i) {
    if (a[i]>=resl && a[i]<=resr) ++sum1;
    else ++sum2;

    if (k>=2 && sum1>sum2) {
      cout << last << " " << i << endl;
      last = i+1, sum1 = 0, sum2 = 0;
      --k;
      if (k == 1) {
        cout << i+1 << " " << n << endl;
        return;
      }
    }
  }
}

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