swap

人员

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作业

https://www.luogu.com.cn/contest/232403 (课上讲了 A~D 4 个题, 课后作业是 E 题)

课堂表现

今天上课同学们听讲做题都很认真, 有几位同学可能缺一些搜索的知识, 需要尽快补一下对应的知识点。

课堂内容

P1250 种树

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

using namespace std;

const int maxn = 3e4 + 5;
bool f[maxn];
struct node {
  int b, e, t;
} w[maxn];
bool cmp(node p, node q) { return p.e < q.e; }

int main()
{
  int n, m; cin >> n >> m;
  for (int i = 1; i <= m; ++i) cin >> w[i].b >> w[i].e >> w[i].t;
  sort(w+1, w+m+1, cmp);

  for (int i = 1; i <= m; ++i) {
    int b = w[i].b, e = w[i].e, t = w[i].t;
    int cnt = 0;
    for (int j = b; j <= e; ++j) {
      if (f[j]) ++cnt;
    }
    if (cnt >= t) continue;

    for (int j = e; j >= b; --j) {
      if (!f[j]) {
        f[j] = true; ++cnt;
        if (cnt == t) break;
      }
```

```
    }
  }

  int res = 0;
  for (int i = 1; i <= n; ++i) {
    if (f[i]) ++res;
  }
  cout << res << endl;
  return 0;
}
```

P1413 坚果保龄球

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

using namespace std;

vector<int> vec[10];

int calc(vector<int> vv) {
    if (vv.empty()) return 0;

    sort(vv.begin(), vv.end());
    int res = 1, time = vv[0], n = vv.size();
    for (int i = 0; i < n; i++) {
        if (vv[i]-time < 60) continue;
        res++, time = vv[i];
    }
    return res;
}

int main()
{
    int n; cin >> n;
    while (n -- ) {
        int x, y; cin >> x >> y;
        vec[x].push_back(y);
    }

    int sum = 0;
    for (int i = 1; i <= 6; i++) {
        sum += calc(vec[i]);
    }
    cout << sum << endl;
    return 0;
}
```

U528647 swap

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

using namespace std;

const int maxn = 2000 + 5;
int w[maxn];
vector<int> vec[maxn];
int n;
struct node {
    int x, y;
};
int dis[maxn][maxn];

int bfs() {
    for (int i = 1; i <= n; i++) {
        for (int j = 1; j <= n; j++) dis[i][j] = -1;
    }

    queue<node> q; q.push({1,n}); dis[1][n] = 0;
    while (!q.empty()) {
        node u = q.front(); q.pop();
        int x = u.x, y = u.y;
        for (int i : vec[x]) {
            for (int j : vec[y]) {
                if (w[i]!=w[j] && dis[i][j]==-1) {
                    q.push({i,j}); dis[i][j] = dis[x][y]+1;
                }
            }
        }
    }

    return dis[n][1];
}

void solve() {
    int m; cin >> n >> m;
    for (int i = 1; i <= n; ++i) vec[i].clear();
    for (int i = 1; i <= n; i++) cin >> w[i];
    while (m -- ) {
        int u, v; cin >> u >> v;
        vec[u].push_back(v), vec[v].push_back(u);
    }

    cout << bfs() << endl;
}

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

B2105 矩阵乘法

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

using namespace std;

const int maxn = 100 + 5;
int a[maxn][maxn], b[maxn][maxn], c[maxn][maxn];

int main()
{
  int n, m, k; cin >> n >> m >> k;
  for (int i = 1; i <= n; ++i) {
    for (int j = 1; j <= m; ++j) cin >> a[i][j];
  }
  for (int i = 1; i <= m; ++i) {
    for (int j = 1; j <= k; ++j) cin >> b[i][j];
  }

  for (int i = 1; i <= n; ++i) {
    for (int j = 1; j <= k; ++j) {
      for (int l = 1; l <= m; ++l) c[i][j] += a[i][l]*b[l][j];
      cout << c[i][j] << " ";
    }
    cout << endl;
  }
  return 0;
}
```