

# ACM ICPC Reference

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## Treap

```
typedef int TreapType;
class Treap {
public:
    TreapType data;
    long long priority;
    Treap * left, * right;
    int sz;
    Treap(TreapType data) : left(NULL), right(NULL), data(data), sz(0) {
        priority = rand();
    }
    ~Treap() {
        if (left != NULL) { delete left; }
        if (right != NULL) { delete right; }
    }
    Treap * find(TreapType t) {
        if (this->data == t) {
            return this;
        } else if (this->data > t) {
            if (this->left == NULL) return NULL;
            else return this->left->find(t);
        } else {
            if (this->right == NULL) return NULL;
            else return this->right->find(t);
        }
    }
    void insert(TreapType t) {
        if (t <= this->data) {
            if (this->left == NULL) {
                this->left = Treap(t);
            } else {
                this->left->insert(t);
            }
        } else {

```

```
            if (this->right == NULL) {
                this->right = Treap(t);
            } else {
                this->right->insert(t);
            }
        }
    }
};
```