cis112-week09-appendix: Trees

v2025-04-29

Content

Goal

G0. Fill `StudentInfo`

1. Fill your data in `StudentInfo`.

G1. Balancing a giving tree

Algorithm.

```C-like
dis(x): distance of node x to the root.

b = 2;
s = 0;
while (b - s > 1) {
    f = a leaf farest to the root;
    b = dis(f);
    n = a leaf nearest to the root;
    s = dis(n)
    if (b - s > 1) {
        move `f` under `n`
    }
}
```

1. Complete `LibTreeExtended.balanced` in `lab.appendix`.

Challenge

C1. Structural equivalance

def. Two trees are structurally equivalent iff they are the same except the data in the nodes.

1. Complete `LibTreeExtended.areStructurallyEquivalent` in `lab.appendix`.