Candidate Evaluation Assignment

Senior C++ Developer

Scenario

ACME Farmers Market has an online store through which various products are listed and organized by category. The category layout is a tree structure. Each node can only have 1 parent and is capable of having 0 to n children.

Objective

Create a console app in C++ that will:

1. Read the attached text file, and create a tree data structure.
2. Implement the interface below and provide the correct results to each function.

Assumptions

- Each line is a node. The format is: 'parent name' | 'new node name'.
- The input file is structed to build your tree as it is read. The parent to the new node will be the most recent occurrence of that name.

// Interface
// Print out all nodes with 0 children
PrintLeaves();
// Find and print out node by name. If multiple with the same name return both.
Find(std::string name);
// Print out the full tree structure to the screen.
PrintTree()

Sample print output. Each level of the tree has an additional '-'.

```
TOP
- FRUIT
-- RED
--- APPLE
--- STRAWBERRIES
-- GREEN
--- GRAPES
-- YELLOW
--- BANANA
```

Sample output for Find(BANANAS)

```
TOP-FRUITS-YELLOW-BANANAS
```