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#include "balanced_tree.h"
#include "iostream"

using namespace std;

void main() {
    setlocale(0, "Rus");
    Tree* userTree = nullptr;

    while (true) {
        int user_choice = 0;

        cout << "Enter chosen action: \n"
              << "1. Create tree\n"
              << "2. Add element into a tree\n"
              << "3. Show tree\n"
              << "4. Show reversed tree\n"
              << "5. Show tree height\n"
              << "6. Show tree length\n"
              << "7. Get average key value\n"
              << "8. Delete tree\n"
              << "9. Exit \n";
        cin >> user_choice;
        switch(user_choice){
            case 1: {
                int size = 0;
                cout << "\nEnter amount of elements: \n";
                cin >> size;
                if (size < 1) "\nIt is not a size\n";
                else {
                    userTree = new Tree(new node(rand() % 1000 +
100));
                    userTree->createTree(userTree->getRoot(),
size);
                }
                break;
            }
            case 2: {
                if (userTree != nullptr) {
                    userTree->add(userTree->getRoot());
                }
                else {
                    cout << "\nTree doesn't exist";
                }
                break;
            }
            case 3: {
                if (userTree != nullptr) {
                    cout << "\n\n";
                    userTree->print(userTree->getRoot(), 0);
                    cout << "\n\n";
                }
                else {
                    cout << "\nTree doesn't exist";
                }
                break;
            }
        }
    }
}

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        case 4: {
            if (userTree != nullptr) {
                cout << "\n\n";
                userTree->reverseTreeRightToLeft(userTree->getRoot());
                userTree->print(userTree->getRoot(),0);
                userTree->reverseTreeRightToLeft(userTree->getRoot());
                cout << "\n\n";
            }
            else {
                cout << "\nTree doesn't exist";
            }
            break;
        }
        case 5: {
            if (userTree != nullptr) {
                cout << "\nTree height: " << userTree->countTreeHeight(userTree->getRoot()) << endl;
            }
            else {
                cout << "\nTree doesn't exist";
            }
            break;
        }
        case 6: {
            if (userTree != nullptr) {
                cout << "\nTree length: " << userTree->getTreeLength(userTree->getRoot()) << endl;
            }
            else {
                cout << "\nTree doesn't exist";
            }
            break;
        }
        case 7: {
            if (userTree != nullptr) {
                cout << "\nAverage: " << userTree->getAverage() << endl;
            }
            else {
                cout << "\nTree doesn't exist";
            }
            break;
        }
        case 8: {
            if (userTree != nullptr) {
                cout << "\nSuccessfully deleted" << endl;
                userTree->~Tree();
                userTree = nullptr;
            }
            else {
                cout << "\nTree doesn't exist";
            }
            break;
        }
        case 9: {
            return;
        }
    }
}

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}
}
}
}