# User Guide

# I. Menu Functions

The program provides main functions through the menu, including:

## 1. File

* **Open**: Open a saved tree data file.
* **Save**: Save the current tree to a file.
* **Clear**: Delete all tree data.
* **Exit**: Exit the program.

## 2. Traversal

* **PreOrder**: Traverse the tree in preorder.
* **InOrder**: Traverse the tree in inorder.
* **PostOrder**: Traverse the tree in postorder.
* **BFS**: Traverse the tree using breadth-first search.

## 3. Algorithms

* **FindMax**: Find the maximum value in the tree.
* **FindMin**: Find the minimum value in the tree.
* **Balance**: Balance the tree.

## 4. Help

* **Docs**: Display the user guide.
* **About**: Show program information.

# II. Button Functions on the Interface

Besides the menu, the program also provides buttons on the interface with the following functions:

## 1. Add Node

* Enter an integer value.
* A node with that value will appear in the tree.

## 2. Add Random Node

* Add a node with a random value between **-100 and 100**.

## 3. Search Node

* Enter the value of the node to search for.
* **If the node exists in the tree**: Display the path to that node.
* **If the node does not exist**: Show a message "Node not found".

## 4. Remove Node

* Enter the value of the node to remove.
* **If the node exists in the tree**:
  + Display the node and a confirmation message.
  + The user can choose **OK** to delete or **Cancel** to cancel.
* **If the node does not exist**: Show a message "Node not found".