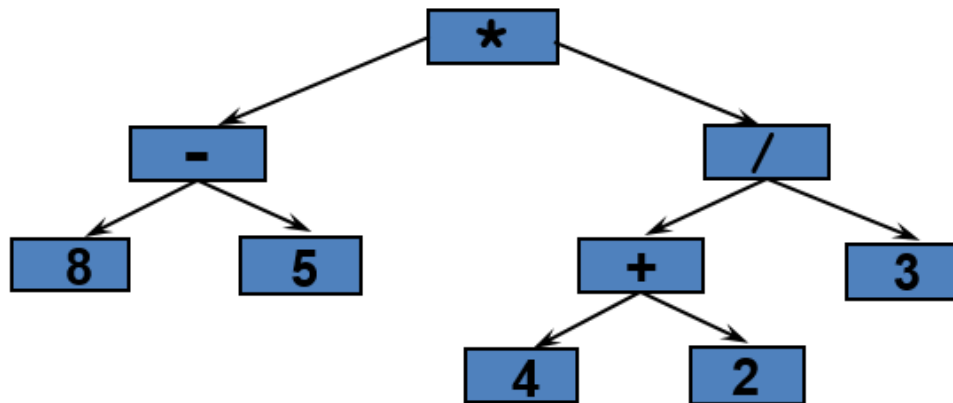


Lab 5 - Binary Tree

Problem 1. An expression can be represented by a binary tree in which:

- Each leaf node contains a single operand.
- Each non-leaf node contains a single binary operator.
- The left and right sub-trees of an operator node represent sub-expressions that must be evaluated before applying the operator at the root of the sub-trees.

For example, the infix expression $((8 - 5) * ((4 + 2) / 3))$ can be represented as the following binary tree:



Write a program to create the binary tree above and perform the following operations discussed:

- Print out the expression in the prefix form (pre-order traversal).
- Print out the expression in the infix form (in-order traversal).
- Print out the expression in the postfix form (post-order traversal).
- Compute the value of the postfix expression.

Suggestion:

You should reuse the solution to Problem 1 in Lab 3.