1. Explain the following terms and their usages
(a) register
(b) CPU (central processing unit)
(c) RAM (memory)
(d) compiler
(e) assembler
(f) linker
(g) loader

2. Give the flow how your .c program is executed by a computer.

3. Explain the relations of (a) variables (b) values (c) memory address (d) register.

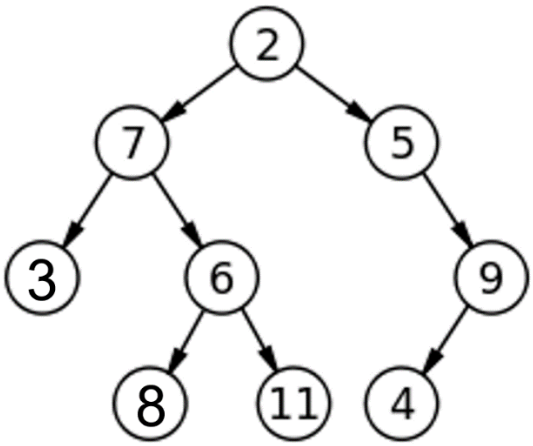
4. Explain the relation of (a) computer system (b) logic gate (c) integrated circuits.

5. Explain how to use AND, OR, NOT, XOR gates to implement a one-bit adder.

6. Explain the relation of (a) Boolean operations (b) logic gates (c) bitwise operations

7. Explain the purposes of the three steps “lexical analysis”, “parsing process” and “code generation” in the compilation process.

8. Show the pre-order, in-order, and post-order traversal sequences of the following binary tree.



9. Given the pre-order and in-order traversal sequences of a binary tree:

Pre-order: 2 7 3 6 8 11 5 9 4

In-order: 3 7 8 6 11 2 5 4 9

show the structure of this binary tree.