Practice 09 Ch 21 Binary Trees

Due May 22 at 11:59pm **Points** 3.9 **Questions** 39
Available Jan 29 at 12am - May 22 at 11:59pm 4 months **Time Limit** 25 Minutes
Allowed Attempts Unlimited

Instructions

Practice Quizzes 09 Ch 21 Binary Trees

Total 3.9 points, 0.1 point each

You may take as many time as you like.

Your best score is kept on record.

Take the Quiz Again

Attempt History

	Attempt	Time	Score
KEPT	Attempt 6	4 minutes	3.9 out of 3.9
LATEST	Attempt 6	4 minutes	3.9 out of 3.9
	Attempt 5	8 minutes	3.8 out of 3.9
	Attempt 4	3 minutes	2.03 out of 3.9
	Attempt 3	1 minute	0.3 out of 3.9
	Attempt 2	1 minute	0.4 out of 3.9
	Attempt 1	25 minutes	3.2 out of 3.9

ⓘ Correct answers are hidden.

Score for this attempt: **3.9** out of 3.9
Submitted May 13 at 3:58pm
This attempt took 4 minutes.

Question 1 **0.1 / 0.1 pts**

When an application begins by searching a binary tree, it starts at

- the outermost leaf node
- the middle node, halfway between the root and the longest branch
- the rightmost child of the root node
- [x] the root node
- None of these

Question 2

0.1 / 0.1 pts

The first node in a binary tree list is called the

- head pointer
- binary node
- [x] root node
- pointer node
- None of these

Question 3

0.1 / 0.1 pts

Deleting a leaf node from a binary tree is not difficult but deleting a non-leaf node requires several steps.

- [x] True

- False

Question 4

0.1 / 0.1 pts

Output will be the same if you use **`InOrder`**, **`PostOrder`**, or **`PreOrder`** traversals of the same binary tree.

- True
- False

Question 5

0.1 / 0.1 pts

In a binary tree, each node must have a minimum of two children.

- True
- False

Question 6

0.1 / 0.1 pts

A node that has no children is known as a

- root node
- head node
- leaf node
- pure binary node

- None of these

Question 7

0.1 / 0.1 pts

The binary tree structure is called a "tree" because it resembles an upside-down tree.

- (•) True
- ( ) False

Question 8

0.1 / 0.1 pts

The process of stepping through the nodes of a binary tree is known as

- ( ) climbing
- (•) traversing
- ( ) stepping through
- ( ) branching out
- ( ) None of these

Question 9

0.1 / 0.1 pts

Binary trees can be divided into

- branches
- leaves
- subtrees
- sawdust
- None of these

Question 10

0.1 / 0.1 pts

The height of a tree describes how many levels there are in the tree.

- True
- False

Question 11

0.1 / 0.1 pts

A binary tree with a height of three has

- six nodes
- one root and three nodes with two children each
- three levels
- three subtrees
- None of these

Question 12

0.1 / 0.1 pts

Select all that apply. Which of the following are methods of traversing a binary tree?

- [ ] `LeftOrder` traversal
- [x] **`PreOrder`** traversal
- [ ] `FrontOrder` traversal
- [x] **`InOrder`** traversal
- [x] **`PostOrder`** traversal

Question 13

0.1 / 0.1 pts

The width of a tree is the largest number of nodes in the same level.

- (•) True
- ( ) False

Question 14

0.1 / 0.1 pts

In a binary tree class you usually have a pointer as a member that is set to the

- ( ) leftmost child node
- ( ) first leaf node

- (•) root of the tree
- ( ) deepest leaf node
- ( ) None of these

Question 15

0.1 / 0.1 pts

The _____ in a binary tree is similar to the head pointer in a linked list.

- (•) root pointer
- ( ) leaf pointer
- ( ) null pointer
- ( ) binary pointer
- ( ) None of these

Question 16

0.1 / 0.1 pts

The `PreOrder` method of traversing a binary tree involves processing the node's data, traversing the node's left subtree, and then traversing the node's right subtree.

- (•) True
- ( ) False

Question 17

0.1 / 0.1 pts

When a binary tree is used to facilitate a search, it is referred to as a

- binary queue
- binary ordered deque
- sort algorithm
- (•) binary search tree
- None of these

Question 18

0.1 / 0.1 pts

The **`PostOrder`** method of traversing a binary tree involves processing the node's data, traversing the node's right subtree, and then traversing the node's left subtree.

- True
- (•) False

Question 19

0.1 / 0.1 pts

Deleting a node that has two children offers an opportunity to use

- a function that returns a pointer to a pointer
- a function parameter that is a pointer to a pointer
- double indirection

- (•) All of these
- ( ) None of these

Question 20

0.1 / 0.1 pts

The **`InOrder`**, **`PreOrder`**, and **`PostOrder`** traversals can be accomplished using

- (•) recursion
- ( ) no pointers
- ( ) no arguments
- ( ) no parameters
- ( ) None of these

Question 21

0.1 / 0.1 pts

A good reason to use the binary tree structure is

- (•) to expedite the process of searching large sets of information
- ( ) aesthetics and program design
- ( ) code readability
- ( ) that it is more flexible than the unary tree structure
- ( ) None of these

Question 22

0.1 / 0.1 pts

In a non-linear linked list, a node can point to

- ○ only the next node in sequence
- ○ only the previous node in sequence
- ◉ more than one other node, plus the previous node in sequence
- ○ all of the other nodes in the list
- ○ None of these

Question 23

0.1 / 0.1 pts

Select all that apply. Binary trees may be implemented as templates, but any data types used with them must support the _____ operator.

- ☑ >
- ☑ <
- ☐ &&
- ☑ ==
- ☐ linked

Question 24

0.1 / 0.1 pts

All nodes to the right of a node hold values greater than that node's value.

- (•) True
- ( ) False

Question 25

0.1 / 0.1 pts

The **`intBinaryTree`** class has a public member function, **`findNode`**, that returns **`true`** if a value is not found and **`false`** if the value is found.

- ( ) True
- (•) False

Question 26

0.1 / 0.1 pts

Values are typically stored in a binary search tree so that a node's _____ child holds data that is less than the _____ data.

- ( ) right, node's
- (•) left, node's
- ( ) right, left child's
- ( ) left, right child's
- ( ) None of these

Question 27

0.1 / 0.1 pts

The head pointer, anchored at the top of a binary tree, may be called the

- root node
- tree pointer
- binary pointer
- leaf pointer
- node pointer

Question 28

0.1 / 0.1 pts

All node pointers that do NOT point to other nodes are set to

- the root of the tree
- a parent node
- their leftmost child node
- a null pointer
- None of these

Question 29

0.1 / 0.1 pts

Select all that apply. Which of the following operations can be performed on a binary search tree?

- moving

- [x] inserting
- [x] finding
- [ ] placing
- [x] deleting

Question 30

0.1 / 0.1 pts

When working with a binary tree, a node that has more than two children

- ( ) will be cut back by the compiler
- (•) is theoretically impossible in a correctly developed binary tree structure
- ( ) is known as a triplet node
- ( ) None of these

Question 31

0.1 / 0.1 pts

A binary tree can be created using a struct or class containing a data value and

- ( ) a pointer to the first child node
- ( ) a pointer to the last child node
- (•) two pointers, one for the left child and one for the right child
- ( ) two data nodes
- ( ) None of these

Question 32

0.1 / 0.1 pts

The **`InOrder`** method of traversing a binary tree involves traversing the node's left subtree, processing the node's data, and then traversing the node's right subtree.

- (•) True
- ( ) False

Question 33

0.1 / 0.1 pts

To remove a node that has children, you must first remove the children.

- ( ) True
- (•) False

Question 34

0.1 / 0.1 pts

Binary trees are commonly used to organize key values that index database records.

- (•) True
- ( ) False

Question 35

0.1 / 0.1 pts

In a binary tree, each node may point to _____ other node(s).

- no
- one
- two
- Any of these
- None of these

Question 36

0.1 / 0.1 pts

The shape of a binary tree is

- always triangular
- always balanced
- determined by the programmer
- determined by the order in which values are inserted
- None of these

Question 37

0.1 / 0.1 pts

When the root node points to two other nodes, the nodes are referred to as

- (•) child nodes, or children
- ( ) parent nodes, or parents
- ( ) binary nodes
- ( ) subnodes
- ( ) None of these

Question 38

0.1 / 0.1 pts

When you dereference a pointer to a pointer, the result is

- ( ) a value of the data type that is pointed to
- (•) another pointer
- ( ) not possible to determine
- ( ) a null pointer
- ( ) None of these

Question 39

0.1 / 0.1 pts

A subtree is an entire branch of a tree from one particular node down.

- (•) True
- ( ) False

Quiz Score: **3.9** out of 3.9