Review Test Submission: Module 10 Quiz

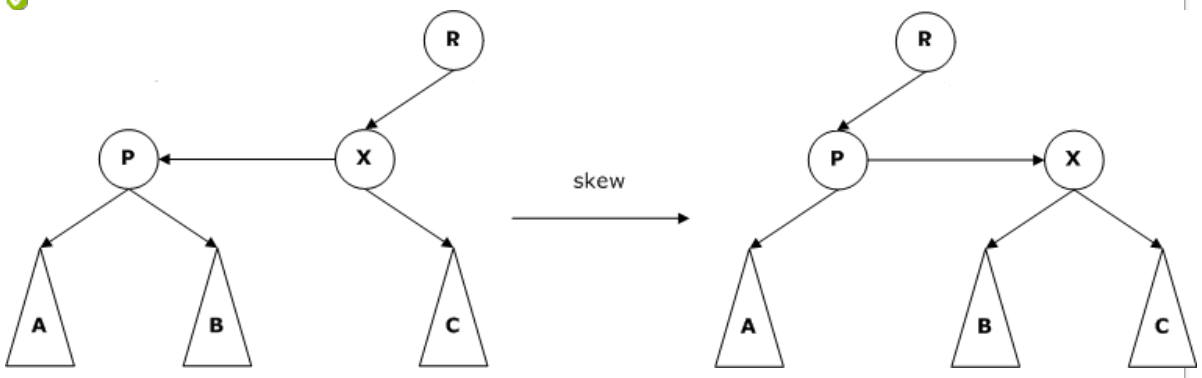
User	Steve Halder
Course	CSC 385 D: Data Structures & Algorithms (Spring 2020)
Test	Module 10 Quiz
Started	5/6/20 1:47 AM LATE
Submitted	5/6/20 1:59 AM LATE
Due Date	4/6/20 11:00 PM
Status	Completed
Attempt Score	10 out of 10 points
Time Elapsed	12 minutes
Instructions	This quiz contains questions covering the material from Module 10. It is open book/notes, so you may use these materials during the quiz. The questions are presented one at a time, to allow your answers to be saved as you progress through the quiz. You will be able to backtrack to previous questions if you wish.
Results Displayed	Submitted Answers, Correct Answers, Feedback

Question 1

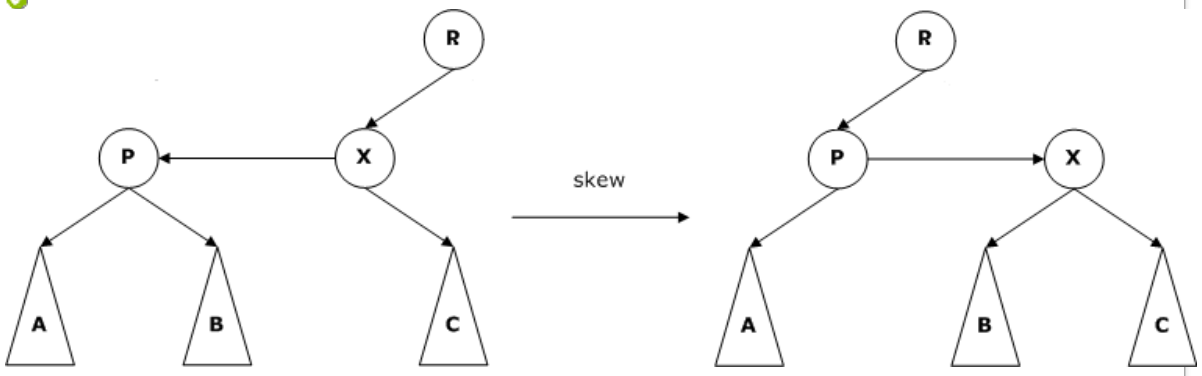
2 out of 2 points

Which of the pictures below shows an AA tree skew operation done correctly?

Selected Answer:



Correct Answer:



Question 2

1 out of 1 points

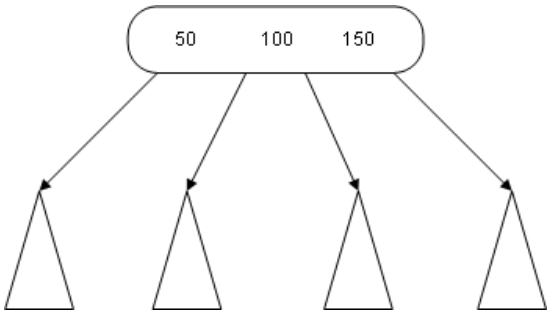
In a red-black tree, all leaf nodes must be red.

Selected Answer: False

Correct Answer: False

Question 3 1 out of 1 points

If the item 163 were added to the 2-4 Tree below, which subtree would the item be added to?



Selected Answer: right subtree

Correct Answer: right subtree

Question 4 1 out of 1 points

The term used to describe a reference to an *arbitrary* upstream node in a tree while performing a tree traversal is:

Selected Answer: sentinel

Correct Answer: sentinel

Question 5 1 out of 1 points

What is the maximum number of child nodes for a 3-node?

Selected Answer: 3

Correct Answer: 3

Question 6 1 out of 1 points

If the item 33 were added to the 2-3 Tree below, which currently consists of only the root node, where would the item be added?

Selected Answer: the root node

Correct Answer: the root node

Question 7 2 out of 2 points

Which of the following are reasons why the red-black tree is considered more efficient than the AVL tree? (Select all that apply.)

Selected Answers:
- Red-black trees are typically implemented using iteration rather than recursion.
- Red-black trees only require a single, top-down pass to both add/remove an item and fix any imbalances that occur.
- Although the code required to implement a red-black tree is generally considered to be more complex and harder to write than the code required to implement an AVL tree, it is nevertheless more efficient.

Correct Answers:
- Red-black trees are typically implemented using iteration rather than recursion.
- Red-black trees only require a single, top-down pass to both add/remove an item and fix any imbalances that occur.
- Although the code required to implement a red-black tree is generally considered to be more complex and harder to write than the code required to implement an AVL tree, it is nevertheless more efficient.

Question 8

1 out of 1 points

How many data items are contained within a 4-node?

Selected Answer: 3

Correct Answer: 3

Tuesday, May 12, 2020 11:21:42 AM CDT

← OK