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Unit 7 - Week 06: Applications of Optimal List Ranking algorithm, Expression Tree Evaluation, Merging and Cole's Merge Sort

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Course outline

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Week 06: Applications of Optimal List Ranking algorithm, Expression Tree Evaluation, Merging and

Assessment 6

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment. **Due on 2019-03-13, 23:59 IST.**

1) An Euler circuit of a tree is “DHDBCBGBDEAEFED”. If this tree is rooted at vertex “A”, then a preorder traversal of the tree is _____. ***1 point***

- ABCDEFGH
- AEFDHBCG
- ADHBCGEF
- AFEHDCBG

No, the answer is incorrect.
Score: 0

Accepted Answers:
AEFDHBCG

2) An Euler circuit of a tree is “DHDBCBGBDEAEFED”. If this tree is rooted at vertex “G”, then a postorder traversal of the tree is _____. ***1 point***

- AEFDHBCG
- BCDHEFAG
- CHFAEDBG
- DHEFACBG

No, the answer is incorrect.
Score: 0

Accepted Answers:
CHFAEDBG

3) An Euler circuit of a tree is “DHDBCBGBDEAEFED”. If this tree is rooted at vertex “D”, then the number of descendants of vertex "E" (including ***1 point***

- 6

No, the answer is incorrect.
Score: 0

Accepted Answers:
3

4) The depth of the expression tree corresponding to "(4*(6+(3+2))+9)*8" is ____ (The depth of a tree is the number of edges in the longest root-to-leaf path in it.) ***1 point***

- 3
- 4
- 5
- 6

No, the answer is incorrect.
Score: 0

Accepted Answers:
5

5) In an expression tree nodes u, v and w have labels (4,1), (1,4) and (2,3) respectively. Node v holds a value of 8. Node u holds a multiplication operator and is the parent of v and w. Node v is a leaf. If a rake operation is applied on v, what will be the new label of w? ***1 point***

- (48,72)
- (96,144)
- (48,73)
- (96,145)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(96,145)

6) Consider the expression tree corresponding to (4*(6+(3+2))+9)*8. Suppose the contraction algorithm is applied on this until the tree contracts to three vertices. The label of the left child of the root at this stage is ____. ***1 point***

- (4,45)
- (4,9)
- (1,3)
- (44,9)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(4,45)

7) With $\sqrt{m}$ processors a key value can be searched in an array of size $\sqrt{m}$ in Θ(___) time on a CREW PRAM. ***1 point***

- $\sqrt{m}$
- $\log m$

- $\log \log m$
- 1

No, the answer is incorrect.
Score: 0

Accepted Answers:
1

8) Cole's merge sort run on an array of size n executes _____ stages. ***1 point***

- $\log n$
- $3 \log n$
- $3 \log n + 3$
- $3 \log n + 1$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$3 \log n$

9) If Cole's merge sort is run on the input "VL9E4K8TMWC2SJD7UYBR3NG5PQFA6XZH" (the same as the example in Lecture 18), at the end of the 7th stage the sample array at the great grand parent of leaf U would contain _____. ***1 point***

- BU
- BRUY
- 3B
- 3BGU

No, the answer is incorrect.
Score: 0

Accepted Answers:
3B

10)If Cole's merge sort is run on input "VL9E4K8TMWC2SJD7UYBR3NG5PQFA6XZH" (the same as the example in Lecture 18), the samples drawn from the great grand parent of leaf C would be ____. ***1 point***

- 2CJS
- 2CMW
- 27CD
- 2C

No, the answer is incorrect.
Score: 0

Accepted Answers:
2CJS

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