Unit 4 - Week 03: Basic Techniques

Assessment 3

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2019-02-20, 23:59 IST.

1) When the minimum algorithm that uses accelerated crowding on COMMON CRCW PRAM is invoked on an array of size n with 2n processors, the size of the problem after the third size reduction is

- n/8
- n/7
- n/128
- n/256

No, the answer is incorrect.
Score: 0
Accepted Answers: n/128

2) If the divide and conquer algorithm for finding prefix sums is run on “4, 8, 1, 3, 9, 6, 8, 7”, then what is the last operation performed to find the prefix sum value corresponding to input element 6?

- 9+6
- 26+5
- 25+6
- 16+15

No, the answer is incorrect.
Score: 0
Accepted Answers: 16+15

3) With \( p \) processors, where \( 1 \leq p \leq n \log \log n \), the minimum of \( n \) numbers can be found on a CRCW PRAM in \( \Theta (\text{____}) \) time.

0 points
No, the answer is incorrect.
Score: 0
Accepted Answers:

4) When key value 10 is searched in an array that contains "4, 6, 8, 13, 15, 17, 19" with six processors assigned to the first six elements of the array, on a CREW PRAM, using Algorithm Search-1, which is the processor that reports the rank of 10 in the array?
- the first
- the third
- the fourth
- all of them together

No, the answer is incorrect.
Score: 0
Accepted Answers:

5) When a key value is searched in an array with six processors on a CREW PRAM, using Algorithm Search-2, the range of search reduces by a factor of _____ in each step.
- 2
- 5
- 6
- 7

No, the answer is incorrect.
Score: 0
Accepted Answers:

6) Consider the optimal merge algorithm studied in Lecture 8. Consider the two sorted arrays: \( A = (3, 7, 10, 14, 18, 27, 35, 49) \) and \( A' = (3, 14, 35) \). If \( B = (4, 9, 15, 26, 29, 33, 34, 53) \) and are the leader arrays, then \( B' = (4, 26, 34) \) the number of elements left in that charge of leader 26 is _______.
- 0
- 1
- 3
- 4

No, the answer is incorrect.
Score: 0
Accepted Answers:

7) The minimum number of colours required to vertex colour a cycle of seven nodes is _______.
- 2
8) If three consecutive notes x, y and z of a linked list are coloured 43, 12 and 28 respectively now, then after one step of symmetry breaking, the colours of x and y would be _______ respectively

- 1 and 8
- 1 and 10
- 2 and 7
- 6 and 6

No, the answer is incorrect.
Score: 0
Accepted Answers: 3

9) Say, a=12 and b=28. Let c be the bitwise XOR of a and b. Let d=c−1. Then the bitwise XOR of c and d has a numerical value of _____

- 4
- 5
- 15
- 31

No, the answer is incorrect.
Score: 0
Accepted Answers: 31

10) If a linked list is now coloured using 14-bit natural numbers, then after one step of symmetry breaking, it would be coloured using natural numbers of how many bits?

- 4
- 5
- 7
- 13

No, the answer is incorrect.
Score: 0
Accepted Answers: 5