1. The current function runs in parallel
2. After it ends, the old execution context is retrieved from the stack
3. The execution context associated with the current function is remembered in a special data structure called execution context stack

Choose the correct answer from the options given below.

Ops:
A. ◯ Only 1 and 3
B. ◯ Only 1 and 2
C. ◯ All 1, 2 and 3
D. ◯ Only 2 and 3

Q 3 Depth-first search (DFS) traversal can be used for which of the following applications?

1. To find strongly connected components of a graph
2. Topological sorting
3. For detecting cycle in a graph

C. 1018

D. 1010

Q 5 Suppose there is a 1-D array Arr[24] with the lower bound as 1 and starting base address as 1030. Find the address of Arr[21] if the size of each element is 4

Ops: A. 970

B. 1110

C. 1180

D. 950

Q 6 If you are using merge sort, then which of the following statements are correct that need to be considered?

1. It cannot work well with large datasets
2. It is preferred for linked lists
3. It needs auxiliary memory for sorting

D. ○ Only 1 and 2

Q 4 Suppose there is a Column major order 3 x 4 integer array with the base address as 1000. Find out the address of element A[3, 2]. Consider t
element as 2.

Ops: A. ○ 1020

B. ○ 1016

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Q 7 Which of the following is **NOT** a type of linked list?

Ops: A. ○ None of the mentioned options

B. ○ Doubly linked list

D. ◯ Only 1 and 3

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C. ◯ Circular linked list

D. ◯ Header linked list

Q 8 Consider an array A={11, 2, 34} and an array B={0, 4, -3}. An array C has been made by joining array A and B, in order (C has six elements). Calculate the sum of the first and last element present in array C.

Ops: A. ◯ 0

B. ◯ 1

C. ◯ 8

D. ◯ 11

Q 9 John has written a program that traverses a given an array linearly and outputs the sum of all the elements of an array which are divisible by 3. If an array X = {1, 2, 4, 3, 6, 7, 3, 5, 4, 7, 8, 9} is fed into John's program, what will be the output?

Ops: A. ( ) 6

B. ( ) 12

C. ( ) 21

D. ( ) 18

Q 10 Consider a linked list "X", with the following properties:

i. Last node's link field points to the first node of the list.

ii. It allows access to the middle nodes, without starting at the beginning.

Identify the type of X.

Ops: A. ( ) Circularly linked list

B. ( ) Singly Linked List

C. ( ) Header linked list

D. ( ) None of the mentioned options

15 questions, 1 mark each

2 Algorithms

1

2

Ops: A. 12

B. 14

C. 16

D. 8

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D. 0

15 questions,

2 Algorithms

0 out of 15 questions attempted. Attempt?

1

2

C. Only 1 and 2

D. Only 1 and 3

Q 8 Which of the following is **NOT** a type of linked list?

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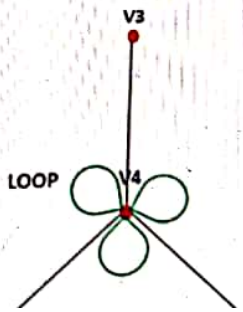
reset answer

Q 9 Find out the sum of the degree of vertices in the pseudograph as shown in the image.



2

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B. Only 2 and 3

C. Only 1 and 2

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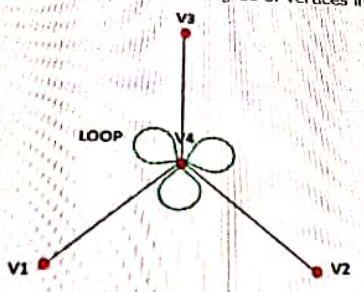

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Q 5 Breadth First Traversal can be used for which of the following applications?

1. To find all neighbouring locations in GPS Navigation systems
2. In Social Networking websites to find the people within a given distance
3. For detecting cycle in any graph

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Q 4 Suppose there is a 1-D array Arr[10] with the lower bound as 1 and starting base address as 1020. Find the address of Arr[5] if the size of each element is 2.

Ops: A. 1024

B. 1028

C. 1016

D. 1012

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Ops: A. Only 1 and 3

B. All 1, 2 and 3

C. Only 2 and 3

D. Only 1 and 2

C. Adaptive and number of swaps

D. Number of comparisions and Stability

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