

DATA STRUCTURES & ALGORITHMS BASED COMPUTER MCQ PRACTICE QUESTIONS AND ANSWERS PDF WITH EXPLANATION

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Q1. Which of the following is not the required condition for binary search algorithm

- a) there must be mechanism to delete and/ or insert elements in list
 - b) the list must be sorted
 - c) there should be the direct access to the middle element in any sublist
 - d) none of the above
-

Q2. The memory address of fifth element of an array can be calculated by the formula

- a) $LOC(\text{Array}[5]) = \text{Base}(\text{Array}[5]) + (5 - \text{lower bound}(D)) \cdot w$, where w is the number of words per memory cell for the array
 - b) $LOC(\text{Array}[5]) = \text{Base}(\text{Array}[4]) + (5 - \text{Upper bound}(D)) \cdot w$, where w is the number of words per memory cell for the array
 - c) $LOC(\text{Array}[5]) = \text{Base}(\text{Array}) + w(5 - \text{lower bound}(D))$, where w is the number of words per memory cell for the array
 - d) None of the above
-

Q3. When representing any algebraic expression E the following uses only binary operations in a 2-tree

- a) the variable in E will appear as external nodes and operations in internal nodes
 - b) the operations in E will appear as external nodes and variables in internal nodes
 - c) the variables and operations in E will appear only in internal nodes
 - d) None of the above
-

Q4. If every node u in G is adjacent to every other node v in G , A graph is said to be

- a) Isolated
- b) Complete
- c) Finite
- d) Strongly connected

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Q5. Two dimensional arrays are also called

- a) tables arrays
- b) matrix arrays
- c) both of the above
- d) none of the above

Q6. The indirect change of the values of a variable in one module by another module is called

- a) internal change
- b) inter-module change
- c) side effect
- d) all the above

Q7. Linked lists are best suited for

- a) relatively permanent collections of data
- b) the size of the structure and the data in the structure are constantly changing
- c) both of above situation
- d) none of above situation

Q8. In a Heap tree values in a node is greater than

- a) every value in left sub tree and smaller than right sub tree
 - b) every value in children of it
 - c) Both of above conditions are true
 - d) None of above conditions are true
-

Q9. A connected graph T without any cycles is called

- a) tree graph
 - b) free tree
 - c) tree
 - d) All of the above
-

Q10. Finding the location of the element with a given value is called

- a) Traversal
 - b) Search
 - c) Sort
 - d) All of the above
-

Q11. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in tree for efficiency. These special pointers are called

- a) Leaf
 - b) Branch
 - c) Path
 - d) Thread
-

Q12. Which of the following statement is false ?

- a) Arrays are dense lists and static data structure

- b) Data elements in linked list need not be stored in adjacent space in memory
- c) Pointers store the next data element of a list
- d) Linked lists are collection of the nodes that contain information part and next pointer

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Q13. The following data structure is non-linear type

- a) Strings
- b) Lists
- c) Stacks
- d) None of the above

Q14. The elements of an array are stored successively in memory cells because

- a) by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated
- b) the architecture of computer memory does not allow arrays to store other than serially
- c) A and B both false
- d) A and B both true

Q15. The time factor when determining the efficiency of algorithm is measured by

- a) Counting the number of key operations
- b) Counting the number of statements
- c) Counting the kilobytes of algorithm
- d) None of the above

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Answers to the above questions :

Q1. Answer: (a)

Q2. Answer: (c)

Q3. Answer: (a)

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Q4. Answer: (b)

Q5. Answer: (c)

Q6. Answer: (c)

Q7. Answer: (b)

Q8. Answer: (b)

Q9. Answer: (d)

Q10. Answer: (b)

Q11. Answer: (d)

Q12. Answer: (c)

Q13. Answer: (d)

Q14. Answer: (a)

Q15. Answer: (a)

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