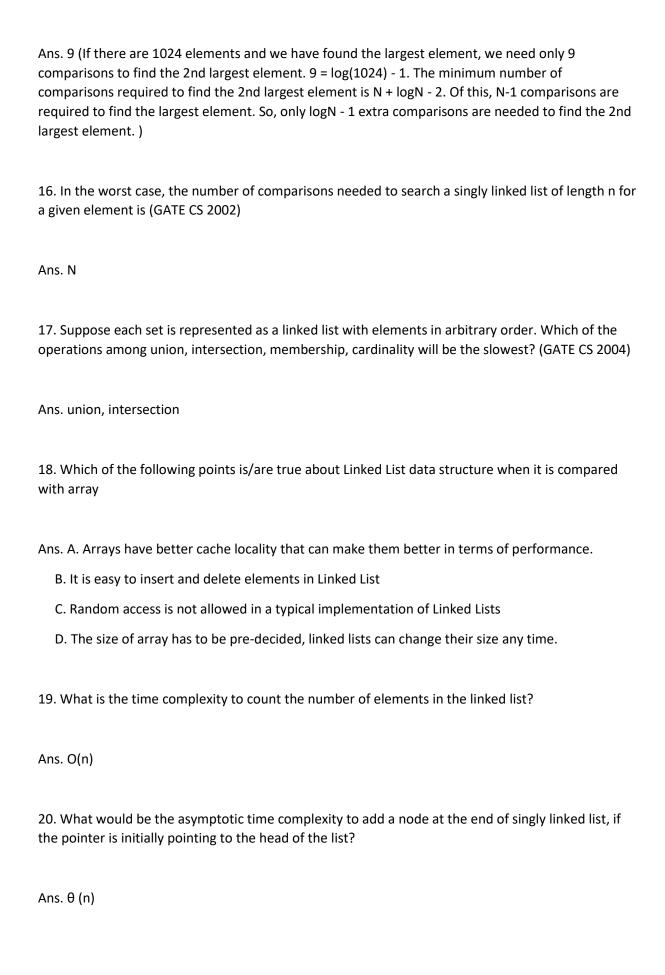


Ans. 1



21. In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is
Ans. n
22. Which of these is an application of linked lists?
Ans. A. To implement file systems
B. For separate chaining in hash-tables
C. To implement non-binary trees
23. In circular linked list, insertion of node requires modification of?
Ans. Two Pointer
24. Consider an implementation of unsorted singly linked list. Suppose it has its representation with a head pointer only.
Given the representation, which of the following operation can be implemented in O(1) time?
Ans. Insertion at the end of the linked list
Deletion of the front node of the linked list
25. What would be the asymptotic time complexity to find an element in the linked list?
Ans. O(n)
26. The concatenation of two list can performed in O(1) time. Which of the following variation of linked list can be used?
Ans. Circular doubly linked list

27. Consider the following definition in c programming language. Which of the following c code is used to create new node?
Ans. ptr = (NODE*)malloc(sizeof(NODE));
28. What kind of linked list is best to answer question like "What is the item at position n"?
Ans. Array implementation of linked list
29. Linked lists are not suitable to for the implementation of?
Ans. Binary search
30. Linked list is considered as an example of type of memory allocation.
Ans. Dynamic
31. In Linked List implementation, a node carries information regarding
Ans. Link
32. Linked list data structure offers considerable saving in
Ans. Space Utilization and Computational Time
33. Which of the following points is/are true about Linked List data structure when it is compared with array
Ans. A. Arrays have better cache locality that can make them better in terms of performance
B. It is easy to insert and delete elements in Linked List
C. Random access is not allowed in a typical implementation of Linked Lists

34. Which of the following sorting algorithms can be used to sort a random linked list with minimum time complexity?
Ans. Merge Sort
35. Given pointer to a node X in a singly linked list. Only one pointer is given, pointer to head node is not given, can we delete the node X from given linked list?
Ans. Possible if X is not last node
Explanation: Following are simple steps.
struct node *temp = X->next;
X->data = temp->data;
X->next = temp->next;
free(temp);
36. The time complexity of the binary search algorithm is?
Ans. O(log n)
37. In the iterative method, the space complexity would be?
Ans. O(1)
37. In the recursive method, the space complexity would be?
Ans. O(log n)
38. The complexity of Binary search algorithm is
Ans. O(log n)

39. The complexity of merge sort algorithm is
Ans. O(n log n)
40. The complexity of Bubble sort algorithm is
Ans. O(n2)
41. The worst case complexity for insertion sort is
Ans. O(n^2) Auxiliary Space: O(1)
42. Auxiliary Space for insertion sort is
Ans. O(1)
43. The worst case complexity of quick sort is
Ans. O(n^2)