Data Structures & Algorithms using Python

Quiz Answers

Linked List - 1

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Quiz Answers

1.

```
class Node:
   def __init__(self, data):
      self.data = data
      self.next = None
def printLL(head):
   while head is not None:
      print(head.data,end=" ")
      head = head.next

node1 = Node(10)
node2 = Node(20)
node2.next = node1
printLL(node2)
```

10 20
20 10
Error
None of the above

2.

```
class Node:
   def __init__(self, data):
      self.data = data
      self.next = None
def printLL(head):
   while head is not None:
      print(head.data,end=" ")
      head = head.next

node1 = Node(10)
node2 = Node(20)
node3 = Node(30)
node4 = Node(40)
node1.next = node2
node2.next = node3
node3.next = node4
printLL(node2)
```

10 20 30 40
20 30 40
30 40
10 30 40

3.

```
class Node:
   def __init__(self, data):
      self.data = data
      self.next = None

def printLL(head):
   while head is not None:
      print(head.data,end=" ")
      head = head.next
def increment(head):
    temp = head
    while temp is not None:
      temp.data +=1
      temp = temp.next

node1 = Node(10)
node2 = Node(20)
node1.next = node2
increment(node1)
printLL(node1)
```

10 20
11 21
Error
None Of The Above

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4. What will be the time complexity of searching an element in the linked list?

O(1)
O(n)
O(nlogn)
O(n^2)

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5. Consider the Singly linked list having n elements. What will be the time taken to add an node at the end of linked list if is initially pointing to first node of the list.
That is only head is given to you.

O(n)
O(1)
O(nlogn)
O(n^2)

6. There is reference (or pointer) to first Node of the Linked List, then time required to insert element to second position is _____.
Indexing starts from 0.

O(1)
O(n)
O(nlogn)
O(n^2)

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7. Given an unsorted singly Linked List, suppose you have reference (or pointer) to its head node only, which of the following operation can be implemented in O(1) time?
i) Insertion at the front of the linked list
ii) Insertion at the end of the linked list
iii) Deletion of the last node of the linked list
iv) Deletion of the front node of the linked list

I and II
I and IV
I, II and III
I, II and IV

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8. Given an unsorted singly Linked List, suppose you have references (or pointer) to its head and tail nodes, which of the following operation can be implemented in O(1) time?
i) Insertion at the front of the linked list
ii) Insertion at the end of the linked list
iii) Deletion of the last node of the linked list
iv) Deletion of the front node of the linked list

I and II
I and III
I,II and III
I,II and IV
