

Rajalakshmi Engineering College

Name: Naren S

Email: 241901066@rajalakshmi.edu.in

Roll no: 241901066

Phone: 6382463115

Branch: REC

Department: I CSE (CS) FA

Batch: 2028

Degree: B.E - CSE (CS)

Scan to verify results



NeoColab_REC_CS23231_DATA STRUCTURES

REC_DS using C_Week 1_MCQ

Attempt : 1

Total Mark : 10

Marks Obtained : 7

Section 1 : MCQ

1. Given a pointer to a node X in a singly linked list. If only one point is given and a pointer to the head node is not given, can we delete node X from the given linked list?

Answer

Possible if X is not last node.

Status : Correct

Marks : 1/1

2. Consider the singly linked list: 13 -> 4 -> 16 -> 9 -> 22 -> 45 -> 5 -> 16 -> 6, and an integer K = 10, you need to delete all nodes from the list that are less than the given integer K.

What will be the final linked list after the deletion?

Answer

13 > 4 > 16 > 9 > 22 > 45 > 5 > 16 > 6

Status : Wrong

Marks : 0/1

3. Linked lists are not suitable for the implementation of?

Answer

Binary search

Status : Correct

Marks : 1/1

4. The following function takes a singly linked list of integers as a parameter and rearranges the elements of the lists.

The function is called with the list containing the integers 1, 2, 3, 4, 5, 6, 7 in the given order. What will be the contents of the list after the function completes execution?

```
struct node {
    int value;
    struct node* next;
};

void rearrange (struct node* list) {
    struct node *p,q;
    int temp;
    if (! List || ! list->next) return;
    p=list; q=list->next;
    while(q) {
        temp=p->value; p->value=q->value;
        q->value=temp;p=q->next;
        q=p?p->next:0;
    }
}
```

Answer

2, 1, 4, 3, 6, 5, 7

Status : Correct

Marks : 1/1

5. Given the linked list: 5 -> 10 -> 15 -> 20 -> 25 -> NULL. What will be the output of traversing the list and printing each node's data?

Answer

5 10 15 20 25

Status : Correct

Marks : 1/1

6. Which of the following statements is used to create a new node in a singly linked list?

```
struct node {  
    int data;  
    struct node * next;  
}  
typedef struct node NODE;  
NODE *ptr;
```

Answer

```
ptr = (NODE)malloc(sizeof(NODE));
```

Status : Wrong

Marks : 0/1

7. The following function reverse() is supposed to reverse a singly linked list. There is one line missing at the end of the function.

What should be added in place of "/*ADD A STATEMENT HERE*/", so that the function correctly reverses a linked list?

```
struct node {  
    int data;  
    struct node* next;  
};  
static void reverse(struct node** head_ref) {  
    struct node* prev = NULL;  
    struct node* current = *head_ref;
```

```
struct node* next;
while (current != NULL) {
    next = current->next;
    current->next = prev;
    prev = current;
    current = next;
}
/*ADD A STATEMENT HERE*/
}
```

Answer

*head_ref = current;

Status : Wrong

Marks : 0/1

8. In a singly linked list, what is the role of the "tail" node?

Answer

It stores the last element of the list

Status : Correct

Marks : 1/1

9. Consider an implementation of an unsorted singly linked list. Suppose it has its representation with a head pointer only. Given the representation, which of the following operations 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 front node of the linked list
- iv) Deletion of the last node of the linked list

Answer

I and III

Status : Correct

Marks : 1/1

10. Consider the singly linked list: 15 -> 16 -> 6 -> 7 -> 17. You need to delete all nodes from the list which are prime.

What will be the final linked list after the deletion?

Answer

15 -> 16 -> 6

Status : Correct

Marks : 1/1