

DSA_Quiz-4_23/3/2021

This quiz includes questions of linked list and Tree.

* This form will record your name, please fill your name.

1

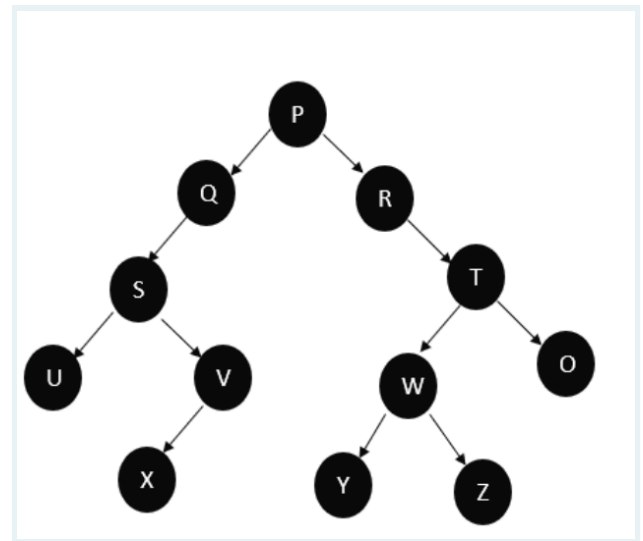
Consider the function - attached as image:

For a given linked list p, the function f return 1 if and only if
(2 Points)

```
struct item {
    int data;
    struct item*next;
};
int f (struct item *p) {
    return ((p==NULL) || (p->next==NULL) ||
            ((p->data<=p->next->data) &&
             f(p->next))) ;
}
```

- ☐ the list is empty or has exactly one element
- ☐ the elements in the list are sorted in non-decreasing order of data
- ☐ the elements in the list are sorted in non-increasing order of data
- ☐ not all elements in the list have the same data value

2



Consider the given tree. What are indices of vertex V,O and Y if tree is represented using sequential representation.(Index of P is 0).
(2 Points)

- ☐ 6,8,11
- ☐ 8,14,27
- ☐ 8,15,21
- ☐ 6,8,12

3

Find the Preorder traversal of tree given in Q-2. (Answer Format: P,Q,R... without space)
(2 Points)

4

Find the Inorder traversal of tree given in Q-2. (Answer Format: P,Q,R... without space)
(2 Points)

5

Consider the following traversals of a binary tree :

Postorder : D C B J F I H G E A

Inorder : B D C A J F E G H I

Find the Preorder traversal.(Answer Format: A,B,C... without space)
(2 Points)

```

struct node
{
    int d;
    struct node *prev, *next;
}*L, *R;
void swap()
{
    p= R->prev;
    p->next = s1;
    R->prev= s2;
    s3= R;
    p->prev= s4;
    R->next= s5;
    s6;
}

```

Consider the doubly linked list where L and R denotes the addresses of left most and right most nodes.

In the code swap() function will swap the last two nodes [will swap only if linked list has more than two nodes]. Complete the statements(s1,s2,s3,s4,s5,s6) in the code: (5 Points)

- ☐ s1:NULL, s2:p->prev, s3:p->prev->next, s4:R, s5:p, s6:R=p
- ☐ s1:NULL, s2:p->prev, s3:p->prev, s4:p, s5:R, s6:p=R
- ☐ s1:p->prev, s2:NULL, s3:p->prev->next, s4:R, s5:p, s6:R=p
- ☐ s1:NULL, s2:p->prev, s3:p, s4:R, s5:p, s6:R=p