

Lab Internals - 2

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USN: IBM19CS203

1. Given an unsorted doubly linked list containing 'n' nodes of USN and Name. Write a program to remove the given USN nodes from the given list.

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
struct node
{
    char usn[30];
    char name[30];
    struct node * next;
    struct node * prev;
};
struct node * head = NULL;
void insertend()
{
    struct node * new_node, * temp;
    new_node = (struct node *) malloc (size of (struct node));
    printf("Enter usn\n");
    scanf("%s", new_node->usn);
    printf("Enter name\n");
    scanf("%s", new_node->name);
    new_node->next = NULL;
    new_node->prev = NULL;
    if(head == NULL)
    {
        head = new_node;
    }
}
```

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```

else
{
    temp = head;
    while(temp -> next != NULL)
    {
        temp = temp -> next;
        temp -> next = new node;
        new node -> prev = temp;
    }
}

void del()
{
    struct node * temp;
    char ele[30];
    if(head == NULL)
    {
        printf("Empty");
        return;
    }
    printf("Enter usn to be deleted ");
    scanf("%d", &ele);
    temp = head;
    while(strcmp(temp -> usn, ele) != 0)
    {
        temp = temp -> next;
        if(temp == NULL)
        {
            printf("Element is not in list");
            break;
        }
    }
    if(temp == head)
    {
        head = head -> next;
    }
}

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```

else {
    temp->prev->next=temp->next;
    temp->next->prev=temp->prev;
}
}

```

```

void display()
{ struct node *temp;
  temp = head;
  while (temp != NULL) {
    printf("USN : %s\n", temp->usn);
    printf("name : %s\n", temp->name);
    temp = temp->next;
  }
  printf("\n");
}

```

```

int main()
{ int choice;
  while (1) {
    printf("1. insert usn\n");
    printf("2. delete usn\n");
    printf("3. display\n");
    printf("4. exit\n");
    printf("Enter choice\n");
    scanf("%d", &choice);
    switch (choice) {
      case 1: insert_end(); break;
      case 2: del(); break;
      case 3: display(); break;
      case 4: exit(0);
    }
  }
}

```

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