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```c
# 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 insert_end()
{
    struct node * new_code, * temp;
    new_node = (struct node*) malloc (sizeof (struct node));
    printf ("Enter the USN\n");
    scanf ("%.8", new_node -> usn);
    printf (" Enter the name\n");
    scanf ("%.s", new_node -> name);
    new_node -> next = NULL;
    new_node -> prev = NULL;
    if (head == NULL)
    {
        head = new_node;
    }
    else
    {
        temp = head;
        while (temp -> next != NULL)
        temp = temp -> next;
        temp -> next = new_node;
        new_node -> prev = temp;
    }
}
```

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

```c
    else
    {
        temp -> prev -> next = temp -> next;
        temp -> next = NULL;
    }
}

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;
    }
}

int main ()
{
    int choice;
    while (1)
    {
        printf (" 1. Insert \n");
        printf (" 2. Delete \n");
        printf (" 3. Display \n");
        printf (" 4. Exit \n");
        printf (" Enter your choice \n");
        scanf ("%d", & choice);
```

```
switch (choice)
{
    case 1 : insert_end();
    break;
    case 2: del(); break;
    case 3: display();
    break;
    case 4: exit(0);
    }
}
}
```