LAB-6

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#include <stdio.h>
#include <stdlib.h>
void create();
void display();
void insert_before();
void delfun();
void delfun();
void delete_end();

struct node {
    char name[20];
    char id[20];
    int sem;
    struct node *next;
};
struct node *head = NULL;

int main(){
    int ch;
    do{
        printf("\n1. Create \n2. Display \n3. Insert before\n4. Delete
        from beginning\n 5. Delete desired element\n 6. Delete from
        end \n 7. Exit \n Enter choice: ");
        scanf("%d", &ch);
        switch(ch){
            case 1: create(); break;
            case 2: display(); break;
            case 3: insert_before(); break;
            case 4: delete_beg(); break;
            case 5: delfun(); break;
            case 6: delete_end(); break;
        }
```

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    } while (ch != 7);
}

void create () {
    struct node * newnode, *temp;
    int item;
    newnode = (struct node *) malloc (sizeof (struct node));
    printf (" Enter name: ");
    scanf ("%d", newnode -> name);
    printf (" Enter id, sem");
    scanf("%s", newnode -> id);
    scanf("%d", newnode -> sem);

    if ( head == NULL){
        newnode -> next = NULL;
        head = newnode;
    }
    else {
        temp = head;
        while (temp -> next != NULL)
                temp = temp -> next;
        temp -> next = newnode;
        newnode -> next = NULL;
    }
}

void display (){
    struct node *ptr = NULL;
    ptr = head;
    if (ptr == NULL)
        printf ("Empty list");
```

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    else {
        while (ptr != NULL) {
            printf("%s %s %d \n", ptr->name, ptr->id, ptr->sem);
            ptr = ptr->next;
        }
    }
}
void insert_before() {
    struct node *newnode;
    int cle;
    char snm;
    newnode = (struct node *) malloc (sizeof(struct node));
    printf("Enter name, id, sem: ");
    scanf("%s", newnode->name);
    scanf("%s", newnode->id);
    scanf("%d", newnode->sem);
    newnode->next = head;
    head = newnode;
}

void delete_beg() {
    struct node* temp = head;
    head = head->next;
    free(temp);
}
void delfun() {
    struct node *temp, *del = NULL;
    char ele[20];
    printf("Enter id: ");
    scanf("%8s", &ele);
    if (head == NULL) { printf("Empty List"); return; }
```

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    temp = head;
    if (strcmp(head->id, ele) == 0) {
        head = head->next;
        return;
    }
    while (temp->next != NULL) {
        if ((temp->next->id, ele) == 0) {
            del = temp->next;
            if (del->next == NULL)
                temp->next = NULL;
            else
                temp->next = del->next;
        }
        else
            temp = temp->next;
    }
    if (del == NULL) {
        printf("Element not found");
        return;
    }
}
void delete_end() {
    struct node* temp = head;
    for (temp; (temp->next)->next != NULL; temp = temp->next)
        free(temp->next);
    temp->next = NULL;
}
```