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Lab-6

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#include<stdio.h>
#include<stdlib.h>
void create();
void display();
void delete_pos();
void delete();
void delete_last();
struct node
{   int id;
    char name[50];
    int sem;
    struct node *next;
};
struct node *head=NULL;
int main(int argc, char **argv)
{ int choice, ch;
    do{
    printf("1. create\n2. Display\n3. Delete the first element\n
    4. Delete an element mentioned\n5. Dilute the last
    element\n");
    printf("\n Enter your choice:");
    scanf("%d", &choice);
    switch(choice)
    { case 1: create(); break;
      case 2: display(); break;
      case 3: delete_pos(); break;
      case 4: delete(); break;
      case 5: delete_last(); break;
      default: printf("Wrong choice");
    }
    printf("\n Press 1 if you want to continue else
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any other number\n");
scanf("%d", &ch);
}while(ch==1)
return 0;
}
void create()
{   struct node *newnode, *temp;
    int ID, s, j;
    char n[50];
    newnode = (struct node *)malloc(sizeof(struct node));
    printf("Enter the student id, name and sem:");
    scanf("%d", &ID);
    scanf("%s", n);
    scanf("%d", &s);
    newnode->id = ID;
    for(j=0;;j++)
    { newnode->name[j] = n[j];
      if(n[j]=='\0')
      break;
    }
    newnode->sem = s;
    if(head==NULL)
    { newnode->next = NULL;
      head=newnode;
      printf("Node is created\n");
    }
    else
    { temp=head;
      while(temp->next!=NULL)
      { temp = temp->next;
      }
    temp->next=newnode;
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        newnode->next=NULL;
        printf("Node is created\n");
    }
}

void display()
{ struct node *ptr=NULL;
  ptr=head;
  if(ptr==NULL)
  {printf("Nothing to print\n");}
  else
  { while(ptr!=NULL)
    { printf("\tID: %d \t Name: %s \t Sem: %d\n",
      ptr->id, ptr->name, ptr->sem);
      ptr=ptr->next;
    }}}
void delete_pos1()
{ if(head==NULL)
  {printf("Empty list. Can't delete\n"); return;
  }
  else { head = head->next; }
}
void delete()
{ int ele;
  printf("Enter the student ID which has to be
  deleted\n");
  scanf("%d", &ele);
  struct node *temp, *del=NULL;
  if(head==NULL)
  {printf("Empty list. Can't delete\n"); return;
  } temp=head;
  if(temp->id==ele)
  { head=head->next; return; }
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while (temp -> next != NULL)
{ if (temp -> next -> id == ele)
  { 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 in the list \n"); return;
  }
}}
void delete_last()
{  struct node *ptr;
   ptr = head;
   if (head == NULL)
{ printf ("Empty list. Can't delete \n"); return;
}     else if (ptr -> next == NULL)
        { head = NULL; }
 else
{ do {
     if (ptr -> next -> next == NULL)
     {     ptr -> next = NULL;
           return;
     }
   ptr = ptr -> next;
 } while (1);
}}
```