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Div – CS-B

Roll no – 24

```
#include<stdio.h>
#include<stdlib.h>

struct node{
    int data;
    struct node *next;
}*head,*head1;

struct node *create(struct node *head){

    head=(struct node*)malloc(sizeof(struct node));
    return(head);
}
struct node *insert(struct node *head){
    struct node *p;
    int x;
    p=(struct node*)malloc(sizeof(struct node));
    printf("Enter element ");
    scanf("%d",&x);
    head->data=x;
    head->next=NULL;
    p=head;
    for(int i=2;i<=3;i++){

        p->next=(struct node*)malloc(sizeof(struct node));
        printf("Enter element ");
        scanf("%d",&x);
        p=p->next;
        p->data=x;
        p->next=NULL;
    }
    return (head);
}

struct node *delete(struct node *head,int key){
    struct node *p,*q;
```

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    p=head;
    q=head;
    while(p->data!=key){
        q=p;
        p=p->next;
    }
    q->next=p->next;
    if(q==head){
        head=head->next;
    }
    p->next=NULL;
    free(p);

    return(head);
}

```

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struct node *deletespecificpos(struct node *head,int pos){
    struct node *p,*q;
    if(pos==1){
        p=head;
        head=head->next;
        free(p);
    }
    else{
        p=head;
        q=NULL;
        for(int i=0;i<pos-1&&p;i++){
            q=p;
            p=p->next;
        }
        if(p){
            q->next=p->next;
            free(p);
        }
    }
    return head;
}

```

```

struct node *join(struct node *head,struct node *head1){
    struct node *p,*q;
    p=head;

```

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    q=head1;
    while(p->next!=NULL){
        p=p->next;
    }
    p->next=q;
    return head;
}

```

```

struct node *reverse(struct node *head)
{
    struct node *p, *q, *r;
    p = NULL;
    q = NULL;
    r = head;

    while (r != NULL)
    {
        p = q;
        q = r;
        r = r->next;
        q->next = p;
    }
    head = q;
    return head;
}

```

```

void display(struct node *head){
    struct node *p;
    p=head;
    while(p!=NULL){
        printf("%d\n",p->data);
        p=p->next;
    }
}

```

```

int main(){
    struct node *head3;
    printf("Enter elements in list 1\n");
    head = create(head);
    head=insert(head);
}

```

```

printf("Enter elements in list 2\n");
head1=create(head1);
head1=insert(head1);
printf("\nElements in list 1\n");
display(head);
printf("Elements in list 2\n");
display(head1);
printf("\nAfter joining\n");
head=join(head,head1);
display(head);
printf("\nReverse List\n");
head=reverse(head);
display(head);
printf("\nAfter Deleting\n");
head=delete(head,10);
display(head);
printf("\nAfter Deleting from specific position\n");
head=deletespecificpos(head,2);
display(head);
}

```

```

PS C:\Users\sheeh\OneDrive\Desktop\C\output> & .\'Linkedlist.exe'
Enter elements in list 1
Enter element 10
Enter element 20
Enter element 30

Elements in list 1
10
20
30
PS C:\Users\sheeh\OneDrive\Desktop\C\output> 

```

Elements in list 1

10

20

30

Elements in list 2

40

50

60

After joining

10

20

30

40

50

60

PS C:\Users\sheeh\OneDrive\Desktop\C\output> █

PS C:\Users\sheeh\OneDrive\Desktop\C\output> & .\'Linkedlist.exe'

Enter elements in list 1

Enter element 10

Enter element 20

Enter element 30

Enter elements in list 2

After joining

10

20

30

40

50

60

After Deleting

20

30

40

50

60

```
PS C:\Users\sheeh\OneDrive\Desktop\C\output> & .\'Linkedlist.exe'  
Enter elements in list 1  
Enter element 10  
Enter element 20  
Enter element 30  
  
Elements in list 1  
10  
20  
30  
  
Reverse List  
30  
20  
10  
PS C:\Users\sheeh\OneDrive\Desktop\C\output> █
```