

```
#include <stdlib.h>
#include <stdio.h>
void create();
void display();
void insertBegin();
void deleteBegin();
void deleteEnd();
void deletePos();
```

```
struct node { int id, sem;
               char name[20];
               int info;
               struct node *next; };
```

```
struct node *start = NULL;
```

```
int main()
```

```
{ int choice;
```

```
while(1) { printf("1. Create\n2. Display\n3. Use\n4. Delete from beginning\n5. Delete from\nthe end\n6. Delete from position\n7. exit\n");
```

```
printf("Enter your choice");
```

```
scanf("%d", &choice);
```

```
switch(choice)
```

```
{ case 1: create();
      break;
```

```
case 2: display(); break;
```

```
case 3: insertBegin(); break;
```

```
case 4: deleteBegin(); break;
```

```
case 5: deleteEnd(); break;
```

```
case 6: deletePos(); break;
```

Case 7: `exit(0);`

`break;`

default:

`printf("Wrong choice\n");`  
`break;`

`} } return 0;`  
`}`

`void create()`

`{ struct node *temp, *ptr;`

`temp = (struct node *) malloc(sizeof(struct node));`

`if (temp == NULL)`

`{`  
`printf("Out of Memory space\n");`  
`exit(0);`  
`}`

`{`

`printf("Enter input");`

`scanf("%d", &temp->id);`

`temp->next = NULL;`

`if (start == NULL)`

`{ start = temp; }`

`else { ptr = start;`

`while (ptr->next != NULL)`

`{ ptr = ptr->next;`

`}`

`ptr->next = temp;`

`}`  
`}`  
`}`

`}`



```
void display()
```

```
{
```

```
    struct node * ptr;
```

```
    if (start == NULL)
```

```
        printf("List is empty\n");
```

```
        return;
```

```
}
```

```
else
```

```
{
```

```
    ptr = start;
```

```
    printf("The list is all\n");
```

```
    while (ptr != NULL)
```

```
    { printf("%d\t", ptr->d);
```

```
        ptr = ptr->next;
```

```
}
```

```
}
```

```
}
```

```
void delete_begin()
```

```
{
    struct node * ptr;
```

```
    if (ptr == NULL)
    {
        printf("In list is empty");
        return;
    }
```

```
    else
```

```
    {
        ptr = start;
```

```
        start = start -> next;
```

```
        printf("The deleted item %d \n", ptr->
```

```
data);
        free(ptr);
    }
```

```
}
```

```
void delete_end()
```

```
{
    struct node * ptr, * temp;
```

```
    if (start == NULL)
```

```
    {
        printf("List empty");
        return;
    }
```

```
}
```

```
else if (start -> next == NULL)
```

```
    ptr = start;
```

```
    start = NULL;
```

```
    printf("The deleted id is %d", ptr->
```

```
data);
    free(ptr);
}
```

```
}
```

```
else
```

```
{
```

```

temp = ptr;
ptr = ptr->next;
}
temp->next = NULL;
free(ptr);
}

```

```

void deletepos()
{
    int i, pos;
    struct node *temp, *ptr;
    if (start == NULL)
    {
        printf("Empty list");
        exit(0);
    }
    else
    {
        scanf("%d", &pos);
        if (pos == 0)
        {
            ptr = start;
            start = start->next;
            printf("Deleted %d", ptr->id);
            free(ptr);
        }
        else
        {
            ptr = start;
            for (i = 0; i < pos; i++) { temp = ptr; ptr = ptr->next; }
            if (ptr == NULL)
            {
                printf("Position not found");
                return;
            }
            temp->next = ptr->next;
            printf("Deleted element %d", ptr->id);
            free(ptr);
        }
    }
}

```