

## Lab-5 linked list

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```
#include <stdio.h>
#include <stdlib.h>
void create();
void display();
void insert-before();
void insertAfter();
struct node
{
    int data;
    struct node *next;
};
struct node * head = NULL;
int main(int argc, char **argv)
{
    int choice;
    do
    {
        printf("\n1. Create\n2. Display\n3. Insert a
            beginning\n4. Insert a certain position
            \n5. Insert at End").
        printf("\n Enter your choice");
        scanf("%d", &choice);
        switch(choice)
        {
            case 1: create(); break;
            case 2: display(); break;
            case 3: insert-before();
                    break;
            case 4: insertAfter();
                    break;
            case 5: create(); break;
            default: exit(0);
        }
    }
}
```

```

    } while (choice <= 5);
}

void create()
{
    struct node *newnode, *temp;
    int item;
    newnode = (struct node *) malloc (sizeof (struct node));
    printf ("Enter the data: ");
    scanf ("%d", &item);
    newnode->data = item;
    if (head == NULL)
    {
        newnode->next = NULL;
        head = newnode;
        printf ("Node created\n");
    }
    else
    {
        temp = head;
        while (temp->next != NULL)
        {
            temp = temp->next;
        }
        temp->next = newnode;
        newnode->next = NULL;
        printf ("Node created\n");
    }
}

```



```
void display()
```

```
{
```

```
    struct node *ptr = NULL;
```

```
    ptr = head;
```

```
    if (ptr == NULL)
```

```
    {
```

```
        printf("Nothing to print\n");
```

```
    }
```

```
    else
```

```
    {
```

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

```
        {
```

```
            printf("%d", ptr->data);
```

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

```
        }
```

```
    }
```

```
}
```

```
void insert-before()
```

```
{
```

```
    struct node *newnode;
```

```
    int ele;
```

```
    printf("Enter the element:");
```

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

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

```
    newnode->data = ele;
```

```
    newnode->next = head;
```

```
    head = newnode;
```

```
}
```

void insertInFront()  
{

int ele, n;

printf("Enter the data to be entered and  
position at which you want to enter  
specifically:");

scanf("%d %d", &ele, &n);

struct node \* newnode = (struct node \*) malloc  
(sizeof(struct node));

newnode->data = ele;

newnode->next = NULL;

if (n == 1)  
{

newnode->next = head;

head = newnode;

}

struct node \* temp = head;

for (int i = 0; i < n - 2; i++)  
{

temp = temp->next;

}

newnode->next = temp->next;

temp->next = newnode;

}