# **/\* Basic opertaions of linked List \*/**

**#include<stdio.h>**

**#include<conio.h>**

**#include<stdlib.h>**

**struct node**

**{**

**int info;**

**struct node \*next;**

**};typedef struct node node;// changing name from struct node to node**

**node \*start;**

**//function prototypes**

**void insert\_node\_at\_last();**

**void delete\_node(int );**

**void display();**

**void insert\_at\_beginning();**

**node\*create\_node();**

**void insert\_after\_a\_node( int key );**

**void insert\_before\_a\_node(int key );**

**void delete\_first\_node();**

**void delete\_last\_node();**

**void forward\_traversal\_of\_the\_linked\_list();**

**void backward\_traversal\_of\_the\_linked\_list();**

**void backward\_traversal\_of\_the\_linked\_list()// for backward traversal in the linked list**

**{**

**node \*p,\*q,\*r;**

**p=start;**

**q=p->next;**

**p->next=NULL;**

**while(q!=NULL)**

**{**

**r=q->next;**

**q->next=p;**

**p=q;**

**q=r;**

**}**

**start=p;**

**display();**

**}**

**void forward\_traversal\_of\_the\_linked\_list()//for forward traversal in the linked list**

**{**

**node\*q;**

**if(start==NULL)**

**{**

**printf("\n No element in the linked list.\n");**

**}**

**else**

**{**

**q=start;**

**while(q!=NULL)**

**{**

**printf("[[info->%d|address\_of\_next\_node->(%x)]-->>]address of this node->(%x)]--->>>\n",q->info,q->next,q);**

**q=q->next;**

**}**

**}**

**}**

**void delete\_last\_node()// deleting the last node of the linked list**

**{**

**node \*p,\*q,\*r;**

**if(start==NULL)**

**{**

**printf("\n Underflow,No element to delete");**

**}**

**else**

**{**

**p=start;**

**while(p->next!=NULL)**

**{**

**q=p;**

**p=p->next;**

**}**

**q->next=NULL;**

**free(p);**

**}**

**display();**

**}**

**void delete\_first\_node()// deleting the first node of the linked list**

**{**

**node\*q;**

**if(start==NULL)**

**{**

**printf("\n Underflow,No element to delete. :(\n");**

**}**

**else**

**{**

**q=start;**

**start=q->next;**

**free(q);**

**}**

**display();**

**}**

**void insert\_before\_a\_node(int key)// inserting a before a desired node**

**{**

**node \*p,\*q,\*r;**

**p=create\_node();**

**if(start==NULL)**

**{**

**start=p;**

**}**

**else**

**{**

**q=start;**

**while(q!=NULL && q->info!=key)**

**{**

**r=q;**

**q=q->next;**

**}**

**if(q!=NULL)**

**{**

**p->next=q;**

**r->next=p;**

**}**

**else**

**{**

**r->next=p;**

**}**

**}**

**display();**

**}**

**node\*create\_node()//creates a node.**

**{**

**node\*p;**

**p=(node\*)malloc(sizeof(node));**

**printf("\n Enter the info:");**

**scanf("%d",&p->info);**

**p->next=NULL;**

**return (p);**

**}**

**void insert\_after\_a\_node( int key )// inserting after a desired node**

**{**

**node\*p,\*q,\*r;**

**p=create\_node();**

**if(start==NULL)**

**{**

**start=p;**

**}**

**else**

**{**

**q=start;**

**while(q!=NULL && q->info!=key)**

**{**

**r=q;**

**q=q->next;**

**}**

**if(q!=NULL)**

**{**

**p->next=q->next;**

**q->next=p;**

**}**

**else**

**{**

**r->next=p;**

**}**

**}**

**display();**

**}**

**void insert\_at\_beginning()// inseerting node at the beginning of the linked list**

**{**

**node\*p,\*q;**

**p=create\_node();**

**if(start==NULL)**

**{**

**start=p;**

**}**

**else**

**{**

**p->next=start;**

**start=p;**

**}**

**display();**

**}**

**void insert\_node\_at\_last()//inserts node at the end of the list**

**{**

**node\*p,\*q;**

**p=create\_node();// new node created**

**if(start==NULL)**

**{**

**start=p;**

**}**

**else**

**{**

**q=start;**

**while(q->next!=NULL)**

**{**

**q=q->next;**

**}**

**q->next=p;**

**}**

**display();**

**}**

**void delete\_node(int key)// delete a desired node from linked list**

**{**

**node\*p,\*q;**

**p=start;**

**while(p->info!=key && p!=NULL)**

**{**

**q=p;**

**p=p->next;**

**}**

**if(p==NULL)**

**{**

**printf("\n No such node.\n");**

**}**

**else**

**{**

**printf("%d is delted",p->info);**

**q->next=p->next;**

**}**

**free(p);**

**display();**

**}**

**void display()//displays the linked list.**

**{**

**node\*p;**

**p=start;**

**printf("\n The element into the list:\n");**

**while(p!=NULL)**

**{**

**printf("[Info->%d|Address\_of\_next\_node->(%x)]-->>](address of this node->(%x))---->>>>\n",p->info,p->next,p);**

**p=p->next;**

**}**

**}**

**void main()**

**{**

**start=NULL;**

**int num,del,option,key,option2;**

**char ch;**

**system("cls");**

**printf("\n Input Number of nodes:");**

**scanf("%d",&num);**

**while(num)**

**{**

**insert\_node\_at\_last();**

**num--;**

**}**

**start:**

**display();**

**printf("\nPress 1 for Insertion,\nPress 2 for for Deletion,\nPress 3 for Traversal,\nPress 4 for Display,\nPress 5 for Exiting the process");**

**printf("\n Enter choice:");**

**scanf("%d",&option);**

**switch(option)**

**{**

**case 1: printf("\n Insertion of nodes-->>");**

**printf("\n Press 1 for Insert at the beginning of the list,\nPress 2 for Insert at the end of the list,\nPress 3 for enter after a specific node,\nPress 4 for enter before a specific node,\nPress 5 to exit");**

**printf("\n Enter choice:");**

**scanf("%d",&option2);**

**switch(option2)**

**{**

**case 1:  printf("\n Enter a node at the beginning of the list");**

**insert\_at\_beginning();**

**break;**

**case 2: printf("\n Enter a node to the last of the list");**

**insert\_node\_at\_last();**

**break;**

**case 3:printf("\n Insert after a specific node");**

**printf("\n Enter the info of a node after which you want to insert the new node:");**

**scanf("%d",&key);**

**insert\_after\_a\_node(key);**

**break;**

**case 4:printf("\n Insert before a specific node");**

**printf("\n Enter the info of a node before which you want to insert the new node:");**

**scanf("%d",&key);**

**insert\_before\_a\_node(key);**

**break;**

**default: printf("\n Enter the correct choice. :(");**

**}**

**break;**

**case 2: printf("\n Deletion of nodes-->>");**

**printf("\n Press 1 for Deleting the first node of the list,\nPress 2 for Deleting the last node of the list,\nPress 3 for Deleting after a specific node,\nPress 4 to exit");**

**printf("\n Enter choice:");**

**scanf("%d",&option2);**

**switch(option2)**

**{**

**case 1:printf("\n Delete the first node in the list");**

**delete\_first\_node();**

**break;**

**case 2:printf("\n Delete the last node in the list");**

**delete\_last\_node();**

**break;**

**case 3: printf("\n Delete a desired node from the list");**

**printf("\n Enter the number to delete: ");**

**scanf("%d",&del);**

**printf("\n  The linked list:");**

**delete\_node(del);**

**break;**

**case 4:break;**

**default: printf("\n Enter the correct choice");**

**}**

**break;**

**case 3: printf("\n Traversal in Linked List-->>");**

**printf("\nPress 1 for forward tarversal of the linked list,\nPress2 for backward tarversal of the linked list");**

**printf("\n Enter choice:");**

**scanf("%d",&option2);**

**switch(option2)**

**{**

**case 1:printf("\n Forward Traversal:\n");**

**forward\_traversal\_of\_the\_linked\_list();**

**break;**

**case 2:printf("\n Backward Traversal-->>");**

**backward\_traversal\_of\_the\_linked\_list();**

**break;**

**case 3:break;**

**default: printf("\n Enter the correct choice");**

**}**

**break;**

**case 4:printf("\n Display the list");**

**display();**

**break;**

**case 5:exit(0);**

**break;**

**default: printf("\n Enter the correct choice");**

**break;**

**}**

**printf("\nDo you want you repeat the process\nThen press Y or y.");**

**printf("\nPress-->>");**

**ch=getch();**

**if(ch=='y' || ch=='Y')**

**{**

**goto start;**

**}**

**printf("\n \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*End of the process\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");**

**printf("\n :) (: ");**

**}**

**/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Input Number of nodes:5**

**Enter the info:1**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(0)]-->>](address of this node->(23613f0))---->>>>**

**Enter the info:2**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(0)]-->>](address of this node->(2361410))---->>>>**

**Enter the info:3**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(0)]-->>](address of this node->(2361430))---->>>>**

**Enter the info:4**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(0)]-->>](address of this node->(2361450))---->>>>**

**Enter the info:5**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:1**

**Insertion of nodes-->>**

**Press 1 for Insert at the beginning of the list,**

**Press 2 for Insert at the end of the list,**

**Press 3 for enter after a specific node,**

**Press 4 for enter before a specific node,**

**Press 5 to exit**

**Enter choice:1**

**Enter a node at the beginning of the list**

**Enter the info:12**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:1**

**Insertion of nodes-->>**

**Press 1 for Insert at the beginning of the list,**

**Press 2 for Insert at the end of the list,**

**Press 3 for enter after a specific node,**

**Press 4 for enter before a specific node,**

**Press 5 to exit**

**Enter choice:2**

**Enter a node to the last of the list**

**Enter the info:23**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361410))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:1**

**Insertion of nodes-->>**

**Press 1 for Insert at the beginning of the list,**

**Press 2 for Insert at the end of the list,**

**Press 3 for enter after a specific node,**

**Press 4 for enter before a specific node,**

**Press 5 to exit**

**Enter choice:3**

**Insert after a specific node**

**Enter the info of a node after which you want to insert the new node:2**

**Enter the info:34**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:1**

**Insertion of nodes-->>**

**Press 1 for Insert at the beginning of the list,**

**Press 2 for Insert at the end of the list,**

**Press 3 for enter after a specific node,**

**Press 4 for enter before a specific node,**

**Press 5 to exit**

**Enter choice:4**

**Insert before a specific node**

**Enter the info of a node before which you want to insert the new node:5**

**Enter the info:45**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(23614f0)]-->>](address of this node->(2361450))---->>>>**

**[Info->45|Address\_of\_next\_node->(2361470)]-->>](address of this node->(23614f0))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->12|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361490))---->>>>**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(23614f0)]-->>](address of this node->(2361450))---->>>>**

**[Info->45|Address\_of\_next\_node->(2361470)]-->>](address of this node->(23614f0))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:2**

**Deletion of nodes-->>**

**Press 1 for Deleting the first node of the list,**

**Press 2 for Deleting the last node of the list,**

**Press 3 for Deleting after a specific node,**

**Press 4 to exit**

**Enter choice:1**

**Delete the first node in the list**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(23614f0)]-->>](address of this node->(2361450))---->>>>**

**[Info->45|Address\_of\_next\_node->(2361470)]-->>](address of this node->(23614f0))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(23614f0)]-->>](address of this node->(2361450))---->>>>**

**[Info->45|Address\_of\_next\_node->(2361470)]-->>](address of this node->(23614f0))---->>>>**

**[Info->5|Address\_of\_next\_node->(23614b0)]-->>](address of this node->(2361470))---->>>>**

**[Info->23|Address\_of\_next\_node->(0)]-->>](address of this node->(23614b0))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:2**

**Deletion of nodes-->>**

**Press 1 for Deleting the first node of the list,**

**Press 2 for Deleting the last node of the list,**

**Press 3 for Deleting after a specific node,**

**Press 4 to exit**

**Enter choice:2**

**Delete the last node in the list**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(23614f0)]-->>](address of this node->(2361450))---->>>>**

**[Info->45|Address\_of\_next\_node->(2361470)]-->>](address of this node->(23614f0))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(23614f0)]-->>](address of this node->(2361450))---->>>>**

**[Info->45|Address\_of\_next\_node->(2361470)]-->>](address of this node->(23614f0))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:2**

**Deletion of nodes-->>**

**Press 1 for Deleting the first node of the list,**

**Press 2 for Deleting the last node of the list,**

**Press 3 for Deleting after a specific node,**

**Press 4 to exit**

**Enter choice:3**

**Delete a desired node from the list**

**Enter the number to delete: 45**

**The linked list:45 is delted**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:3**

**Traversal in Linked List-->>**

**Press 1 for forward tarversal of the linked list,**

**Press2 for backward tarversal of the linked list**

**Enter choice:1**

**Forward Traversal:**

**[[info->1|address\_of\_next\_node->(2361410)]-->>]address of this node->(23613f0)]--->>>**

**[[info->2|address\_of\_next\_node->(23614d0)]-->>]address of this node->(2361410)]--->>>**

**[[info->34|address\_of\_next\_node->(2361430)]-->>]address of this node->(23614d0)]--->>>**

**[[info->3|address\_of\_next\_node->(2361450)]-->>]address of this node->(2361430)]--->>>**

**[[info->4|address\_of\_next\_node->(2361470)]-->>]address of this node->(2361450)]--->>>**

**[[info->5|address\_of\_next\_node->(0)]-->>]address of this node->(2361470)]**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->1|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23613f0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361410))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361430)]-->>](address of this node->(23614d0))---->>>>**

**[Info->3|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361430))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361470)]-->>](address of this node->(2361450))---->>>>**

**[Info->5|Address\_of\_next\_node->(0)]-->>](address of this node->(2361470))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:3**

**Traversal in Linked List-->>**

**Press 1 for forward tarversal of the linked list,**

**Press2 for backward tarversal of the linked list**

**Enter choice:2**

**Backward Traversal-->>**

**The element into the list:**

**[Info->5|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361470))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361450))---->>>>**

**[Info->3|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361430))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23614d0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361410))---->>>>**

**[Info->1|Address\_of\_next\_node->(0)]-->>](address of this node->(23613f0))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->5|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361470))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361450))---->>>>**

**[Info->3|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361430))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23614d0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361410))---->>>>**

**[Info->1|Address\_of\_next\_node->(0)]-->>](address of this node->(23613f0))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:4**

**Display the list**

**The element into the list:**

**[Info->5|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361470))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361450))---->>>>**

**[Info->3|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361430))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23614d0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361410))---->>>>**

**[Info->1|Address\_of\_next\_node->(0)]-->>](address of this node->(23613f0))---->>>>**

**Do you want you repeat the process**

**Then press Y or y.**

**Press-->>**

**The element into the list:**

**[Info->5|Address\_of\_next\_node->(2361450)]-->>](address of this node->(2361470))---->>>>**

**[Info->4|Address\_of\_next\_node->(2361430)]-->>](address of this node->(2361450))---->>>>**

**[Info->3|Address\_of\_next\_node->(23614d0)]-->>](address of this node->(2361430))---->>>>**

**[Info->34|Address\_of\_next\_node->(2361410)]-->>](address of this node->(23614d0))---->>>>**

**[Info->2|Address\_of\_next\_node->(23613f0)]-->>](address of this node->(2361410))---->>>>**

**[Info->1|Address\_of\_next\_node->(0)]-->>](address of this node->(23613f0))---->>>>**

**Press 1 for Insertion,**

**Press 2 for for Deletion,**

**Press 3 for Traversal,**

**Press 4 for Display,**

**Press 5 for Exiting the process**

**Enter choice:5**

**\*/**