4.2. A menu driven program that implements doubly linked list for the following Operations :- Insert , Display ,Count , Delete , Search.

# include <iostream> # include <conio.h> using namespace std;

class node

{

};

node \*p;

private:

int data; node \*next; node \*prev; public:

void add(int); void display(void); int count(void); void insert(int,int); void remove(int); void search(int);

void node::add(int num)

{

node \*q=p;

if(p==NULL)

{

}

else

{

}

}

p=new node; p->data=num; p->next=NULL; p->prev=NULL;

while(q->next != NULL)

{

q=q->next;

}

q->next=new node; q->next->prev =q;

q->next->data=num; q->next->next=NULL;

void node::display(void)

{

node \*q=p; if(p==NULL)

{

cout<<"No Elements link list/n";

}

else

{

while(q!=NULL)

{

cout<<q->data; q=q->next;

}

}

}

int node::count(void)

{

node \*q=p; int i=0; if(p==NULL)

{

}

else

{

return 0;

while(q!=NULL)

{

}

return i;

}

}

i=i+1;

q=q->next;

void node:: insert(int pos,int num)

{

node\*temp; node \*q=p; int i; if(pos==1)

{

p=new node; p->data=num; p->next=q;

p->prev=NULL; return;

}

if(pos==1+count())

{

add(num); return;

}

temp=q->next; for(i=1;i<=(pos-2);i++)

{

q=q->next;

}

q->next=new node; q->next->data=num; q->next->prev=q;

q->next->next=temp;

q->next->next->prev=q->next;

}

void node::remove(int pos)

{

int i; node\*q=p;

node\*temp; if(pos==1)

{

p=q->next; delete (q);

p->prev=NULL; return;

}

for(i=1;i<=(pos-2);i++)

{

q=q->next;

}

temp=q->next;

q->next=q->next->next; q->next->prev=q; delete(temp);

}

void node:: search(int num)

{

node\*q= p; int flag =0;

int pos =0; for(q=p;q!=NULL;q=q->next)

{

if(q->data == num){

flag =1; break;

}

pos++;

}

if(flag ==1)

{

cout<<"Number found at position"<<pos;

}

else

{

}

}

cout<<"number not found";

int main(void)

{

int num,pos,option; node n;

p=NULL;

char ch='y';

while(ch=='y')

{

cout<<"\n 1.Add"; cout<<"\n 2.Display"; cout<<"\n 3.Count"; cout<<"\n 4.Insert"; cout<<"\n 5.Remove"; cout<<"\n 6.Search";

cout<<"\n Enter Option : " ; cin>>option;

switch(option)

{

case 1:

{

}

cout<<"\nEnter the value: "; cin>>num;

n.add(num);

cout<<"\nDo you Want to do again\n"; break;

case 2:

{

}

n.display();

cout<<"\nDo you Want to do again\n"; break;

case 3:

{

}

num=n.count(); cout<<num;

cout<<"\nDo you Want to do again\n"; break;

case 4:

{

}

case 5:

{

}

case 6:

{

}

cout<<"Enter Position: "; cin>>pos;

cout<<"Enter Number: "; cin>>num; n.insert(pos,num);

cout<<"\nDo you Want to do again\n"; break;

cout<<"\nEnter Position: "; cin>>pos;

n.remove(pos);

cout<<"\nDo you Want to do again\n"; break;

cout<<"Enter Number: "; cin>>num; n.search(num);

cout<<"\nDo you Want to do again\n"; break;

}

ch=getch(); } }