**Singly linked list and its various operations.**

#include <iostream>

#include<string>

using namespace std;

typedef struct linked{

int data;

linked \*next;

};

linked\* create(linked \*h){

int cnt;

cout<<endl<<"Linked list one";

cout<<endl<<"Enter number of nodes:";

cin>>cnt;

linked \*head=h,\*p;

int a;

head=new linked;

cout<<endl<<"Enter data:";

cin>>a;

head->data=a;

head->next=NULL;

p=head;

for(int i=1;i<cnt;i++){

p->next=new linked;

p=p->next;

cout<<endl<<"Enter data:";

cin>>a;

p->data=a;

p->next=NULL;

}

return head;

}

linked\* create1(linked \*h){

int cnt;

cout<<endl<<"Linked list two";

cout<<endl<<"Enter number of nodes:";

cin>>cnt;

linked \*head=h,\*p;

int a;

head=new linked;

cout<<endl<<"Enter data:";

cin>>a;

head->data=a;

head->next=NULL;

p=head;

for(int i=1;i<cnt;i++){

p->next=new linked;

p=p->next;

cout<<endl<<"Enter data:";

cin>>a;

p->data=a;

p->next=NULL;

}

return head;

}

void display(linked \*h){

linked \*p=h;

cout<<endl<<"Linked list elements:";

while(p!=NULL){

cout<<p->data<<"\t";

p=p->next;

}

}

void counts(linked \*h){

linked \*p=h;

int cnt=0;

while(p!=NULL){

cnt++;

p=p->next;

}

cout<<endl<<"Number of nodes:"<<cnt;

}

linked\* add(linked \*h){

int loc,d;

linked \*head,\*p,\*q;

head=h;

cout<<endl<<"Enter location:";

cin>>loc;

p=new linked;

cout<<endl<<"Enter data:";

cin>>d;

p->data=d;

p->next=NULL;

if(loc==1){

p->next=head;

head=p;

return head;

}

else{

q=head;

for(int i=0;i<loc-1;i++){

q=q->next;

}

p->next=q->next;

q->next=p;

return head;

}

}

linked\* deletes(linked \*h){

int loc,d;

linked \*head,\*p,\*q;

head=h;

cout<<endl<<"Enter location:";

cin>>loc;

if(loc==1){

p=head->next;

head=p;

delete p;

return head;

}

else{

q=head;

for(int i=0;i<loc-1;i++){

q=q->next;

}

p=q->next;

q->next=p->next;

delete p;

return head;

}

}

void reverses(linked \*h){

if(h!=NULL){

reverses(h->next);

cout<<h->data<<"\t";

}

}

linked\* concat(linked \*h,linked \*p){

linked \*q=h;

while(q!=NULL){

q=q->next;

}

q->next=p;

return h;

}

int main()

{

linked \*head,\*head1;

int ch;

do{

cout<<endl<<"\*\*\*\*\*LINKED LIST OPERATIONS\*\*\*\*\*\*";

cout<<endl<<"1.Create list...\n2.Display list...\n3.Insert node...\n4.delete node\n5.count nodes\n6.Reverse list...\n7.Concatenate two linked lists...\n8.Exit...";

cout<<endl<<"Enter your choice:";

cin>>ch;

switch(ch){

case 1:

head=create(head);

head1=create1(head);

break;

case 2:

display(head);

display(head1);

break;

case 3:

head=add(head);

break;

case 4:

head=deletes(head);

break;

case 5:

counts(head);

break;

case 6:

reverses(head);

break;

case 7:

head=concat(head,head1);

break;

case 8:

break;

default:

cout<<endl<<"Wrong choice entered....";

}

}while(ch!=7);

return 0;

}