

PROGRAM SINGLE LINKED LIST

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#include <iostream>
#include <conio.h>
#include <stdio.h>
using namespace std;
typedef struct TNode
{
    int data;
    TNode *next;
};

TNode *head;
TNode *bantu;
TNode *baru;

int isEmpty()
{
    if(head == NULL)
    {return 1;}
    else return 0;
}

void insertDepan(int databaru)
{
    baru = new TNode;
    baru->data = databaru;
    baru->next = NULL;
    if(isEmpty()==1)
    {
        head=baru;
        head->next = NULL;
    }
    else
    {
        baru->next = head;
        head = baru;
    }
    cout << "\ndatabaru masuk ::: "<<head->data;
}

void insertBelakang (int databaru)
{
    TNode *baru,*bantu;
    baru = new TNode;
    baru->data = databaru;
    baru->next = NULL;
    if(isEmpty()==1)
    {
        head=baru;
        head->next = NULL;
    }
    else
    {
        bantu=head;
        while (bantu->next!=NULL)
        {
            bantu=bantu->next;
        }
        bantu->next = baru;
    }
}
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        cout<<"Data masuk\n";
    }

void hapusDepan ()
{
    TNode *hapus;
    int d;
    if (isEmpty()==0)
    {
        if(head->next != NULL)
        {
            hapus = head;
            d = hapus->data;
            head = head->next;
            delete hapus;
        }
        else
        {
            d = head->data;
            head = NULL;
        }
        cout<<d<<" terhapus\n";
    } else cout<<"Masih kosong\n";
}

void hapusBelakang()
{
    TNode *hapus,*bantu;
    int d;
    if (isEmpty()==0)
    {
        if(head->next != NULL)
        {
            bantu = head;
            while (bantu->next->next!=NULL)
            {
                bantu = bantu->next;
            }
            hapus = bantu->next;
            d = hapus->data;
            bantu->next = NULL;
            delete hapus;
        }
        else
        {
            d = head->data;
            head = NULL;
        }
        cout<<d<<" terhapus\n";
    }
    else
        cout<<"Masih kosong\n";
}

void tampil()
{
    bantu = head;
    if (isEmpty()==0)
    {
        cout<< "\ndata yang ada dalam list\n";
        while (bantu!=NULL)
        {

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        cout<<bantu->data<<"\n";
        bantu=bantu->next;
    }
    cout<<endl;
}
else
    cout<<"Masih kosong\n";
}

void main()
{
    int databaru,pil;
    char j,w;
    do
    {
        cout<< "berapa nilai yang ingin anda masukkan\n";
        cin>>databaru;
        cout<<"\ndepan(1) atau belakang(2)?\n";cin>>pil;
        if(pil==1)
        {
            insertDepan(databaru);
        }
        else
        {
            insertBelakang(databaru);
        }
        tampil();
        cout<<"apakah anda ingin memasukkan data (y/t)? ";cin>>j;
    }
    while(j=='y');
    do
    {
        cout<<"hapus depan(1) dan hapus belakang(2)? ";cin>>pil;
        if(pil==1)
        {
            hapusDepan();
        }
        else
        {
            hapusBelakang();
        }
        tampil();
        cout<<"apakah anda ingin hapus data (y/t)? ";cin>>w;
    }
    while(w=='y');
    getch();
}

```