**Topik 10 DLLNC / Link List (**Pertemuan 12**)**

**Jumat**, 25 Desember 2020

**Latihan 1 :**

**Kode program :**



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**Output program :**

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**Pilihan [1]**

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**Pilihan [5]**

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**Pilihan [2]**

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**Pilihan [5]**

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**Pilihan [4]**

**-**

**Pilihan [5]**

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DIKUMPULKAN :

Nama File : **A12P99AlproXXXXXNama** (99 nomor tugas, XXXXX : 5 digit NIM terakhir)

Format file : PDF

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Source code :

 #include <iostream.h>

 #include <conio.h>

 #include <stdio.h>

 struct Node

 {

 int notest;

 char nama[20];

 int nilai;

 Node \*prev;

 Node \*next;

 };

 Node \*head = NULL;

 Node \*tail = NULL;

 void tambahdepan()

 {

 Node \*temp;

 // masukkan data...........................

 temp = new Node;

 clrscr();

 cout << "Isikan Data Simpul Baru\n";

 cout << "====================================\n";

 cout << "No Test : "; cin >> temp->notest;

 cout << "Nama : "; gets(temp->nama);

 cout << "Nilai : "; cin >> temp->nilai;

 temp->prev = NULL;

 temp->next = NULL;

 cout << endl;

 // Set up link to this node........................

 if (head == NULL)

 {

 head = temp;

 tail = temp;

 }

 else

 {

 temp->next = head;

 head->prev = temp;

 head = temp;

 }

 }

 void tambahbelakang()

 {

 Node \*temp;

 // masukkan data...........................

 temp = new Node;

 clrscr();

 cout << "Isikan Data Simpul Baru\n";

 cout << "====================================\n";

 cout << "No Test : "; cin >> temp->notest;

 cout << "Nama : "; gets(temp->nama);

 cout << "Nilai : "; cin >> temp->nilai;

 temp->prev = NULL;

 temp->next = NULL;

 cout << endl;

 // Set up link to this node........................

 if (head == NULL)

 {

 head = temp;

 tail = temp;

 }

 else

 {

 tail->next = temp;

 temp->prev = tail;

 tail = temp;

 }

 }

 void hapusdepan()

 {

 Node \*temp;

 temp = head;

 // cek apakah kosong, 1 node, atau bbrp node.......

 if (head == NULL)

 {

 cout << "\nLinked List Kosong ! [Enter] ";

 getch();

 }

 else

 {

 //jika ada sebuah node.........................

 if(head->next == NULL)

 {

 head = NULL;

 tail = NULL;

 }

 else

 {

 //jika node lebih dari 1...................

 head = head->next;

 head->prev = NULL;

 }

 delete temp;

 }

 }

 void hapusbelakang()

 {

 Node \*temp;

 temp = tail;

 // cek apakah kosong, 1 node, atau bbrp node.......

 if (head == NULL)

 {

 cout << "\nLinked List Kosong ! [Enter] ";

 getch();

 }

 else

 {

 //jika ada sebuah node.........................

 if(head->next == NULL)

 {

 head = NULL;

 tail = NULL;

 }

 else

 {

 //jika node lebih dari 1...................

 tail = temp->prev;

 tail->next = NULL;

 }

 delete temp;

 }

 }

 void print\_node()

 {

 Node \*temp;

 temp = head;

 if(temp == NULL)

 cout << "\nEmpty List !, [Enter]";

 else

 {

 clrscr();

 cout << "\nIsi Linked List\n";

 cout << "============================\n";

 do

 {

 cout << "No test : " << temp->notest;

 cout << ", nama : " << temp->nama;

 cout << ", nilai : " << temp->nilai;

 cout << endl;

 temp = temp->next;

 } while(temp != NULL);

 cout << "============================\n";

 cout << "[Enter]";

 }

 getch();

 }

 //program utama ...........................................

 void main()

 {

 int pilih;

 do

 {

 //Tampilan menu....................................

 clrscr();

 cout << "----------------------------------\n"

 << " Menu Pilihan (SLLNC)\n"

 << "----------------------------------\n"

 << " [1] Tambah Depan \n"

 << " [2] Tambah Belakang \n"

 << " [3] Hapus Depan \n"

 << " [4] Hapus Belakang \n"

 << " [5] Cetak Linked List \n"

 << " [6] Keluar \n\n"

 << "----------------------------------\n"

 << "Masukkan pilihan : "; cin >> pilih;

 switch (pilih)

 {

 case 1:

 tambahdepan();

 break;

 case 2:

 tambahbelakang();

 break;

 case 3:

 hapusdepan();

 break;

 case 4:

 hapusbelakang();

 break;

 case 5:

 print\_node();

 break;

 default:

 cout << "Pilihan tidak tersedia ! ";

 break;

 }

 } while (pilih != 6);

 }