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## STRUKTUR DATA

### LATIHAN Materi 8

## DOUBLE LINKED LIST

1. Perhatikan script code double linked list non circular berikut ini dan tuliskan urutan Langkah output node nya!

```
#include<iostream>
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>

typedef struct node
{
    int data;
    node* prev;
    node* next;
};

int main()
{
    node *head;
    node *tail;
    node *n;

    n= new node;
    n->data = 1;
    n->prev=NULL;
    head = n;
    tail = n;

    n= new node;
    n->data = 2;
    n->prev = tail;
    tail->next = n;
    tail=n;

    n=new node;
    n->data = 3;
    n->prev = tail;
    tail->next= n;
    tail=n;

    tail->next=NULL;

    tail = head ;

    while( tail!= NULL ){
        cout << "Data : " << tail->data << endl;
        tail = tail->next;
    }
    system("PAUSE");
    return 0;
}
```

Hasil output

Data : 50  
Data : 1  
Data : 2  
Data : 3

```
n=new node;
n->data=50;
n->prev=NULL;
n->next = head;
head->prev = n;
head = n;

tail->next=NULL;

tail = head ;

while( tail!= NULL ){
    cout << "Data : " << tail->data << endl;
    tail = tail->next;
}
system("PAUSE");
return 0;
}
```

2.

Tuliskan keluarnya, jika ditambahkan statement berikut !

```
node *bantu, *bantu2;

n=new node;
n->data=9;
n->prev=NULL;
n->next=NULL;
bantu = head;

while(bantu->data != 2)
{
    bantu = bantu->next;}

bantu2 = bantu->next;
n->next = bantu2;
bantu2->prev = n;
bantu->next = n;|
n->prev = bantu;

tail->next=NULL;

tail = head ;

while( tail!= NULL ){
    cout << "Data : " << tail->data << endl;
    tail = tail->next;
}

system("PAUSE");
return 0;
```

Hasil output

Data : 50

Data : 1

Data : 2

Data : 9

Data : 3

3.

Tuliskan keluarnya, jika ditambahkan statement berikut !

```
while(bantu->data != 2)
{
    bantu = bantu->next;}

bantu2 = bantu->next;
n->next = bantu2;
bantu2->prev = n;
bantu->next = n;
n->prev = bantu;

hapus = head;
head = head->next;
head->prev = NULL;
delete hapus;

tail->next=NULL;

tail = head ;

while( tail!= NULL ){
    cout << "Data : " << tail->data << endl;
    tail = tail->next;
}
```

Hasil output

Data : 9

Data : 3

4.

Perhatikan script code double linked list circular sederhana berikut ini dan tuliskan urutan langkah output node nya!

```
#include<iostream>
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>

//linked list circular
typedef struct node{
    int data;
    node* prev;
    node* next;
};

int main()
{
    node* head;
    node* tail;
    node* n;
    node* bantu;

    n = new node;
    n->next = n;
    n->prev = n;
    n->data = 5;

    head = tail = n;

    n = new node;
    n->next = n;
    n->prev = n;
    n->data = 8;

    tail->next = n;
    n->prev = tail;
    tail = n;

    tail->next = head;
    head->prev = tail;

    bantu = head;
    do
    {
        cout<<bantu->data;
        bantu = bantu->next;
    } while(bantu!=head);

    system("PAUSE");
    return 0;
}
```

Hasil output

5      8      9