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STRUKTUR DATA
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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 : 1
Data : 2
Data : 3

2. Tuliskan keluarnya, jika ditambahkan statement berikut !

```
    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;
}
```

Hasil output

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

3. 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

4. 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 : 1
Data : 2
Data : 9
Data : 3

5. 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;
```

```
n = new node;
n->next = n;
n->prev = n;
n->data = 9;

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

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