

Checking for Loop Linked List

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#include <stdio.h>
#include <stdlib.h>

struct Node
{
    int data;
    struct Node *next;
}*first=NULL,*second=NULL,*third=NULL;

void Display(struct Node *p)
{
    while(p!=NULL)
    {
        printf("%d ",p->data);
        p=p->next;
    }
}

void create(int A[],int n)
{
    int i;
    struct Node *t,*last;
    first=(struct Node *)malloc(sizeof(struct Node));
    first->data=A[0];
    first->next=NULL;
    last=first;

    for(i=1;i<n;i++)
    {
        t=(struct Node*)malloc(sizeof(struct Node));
        t->data=A[i];
        t->next=NULL;
        last->next=t;
        last=t;
    }
}

int isLoop(struct Node *f)
{
    struct Node *p,*q;
    p=q=f;
```

```

do
{
    p=p->next;
    q=q->next;
    q=q?q->next:q;
}while(p && q && p!=q);

if(p==q)
    return 1;
else
    return 0;
}

int main()
{
    struct Node *t1,*t2;

    int A[]={10,20,30,40,50};
    create(A,5);

    t1=first->next->next;
    t2=first->next->next->next->next;
    t2->next=t1;

    printf("%d\n",isLoop(first));

    return 0;
}

```