#include <stdio.h>

#include <stdlib.h>

/\* Link list node \*/

struct Node {

int data;

struct Node\* next;

};

void push(struct Node\*\* head\_ref, int new\_data)

{

/\* allocate node \*/

struct Node\* new\_node

= (struct Node\*)malloc(sizeof(struct Node));

/\* put in the data \*/

new\_node->data = new\_data;

/\* link the old list off the new node \*/

new\_node->next = (\*head\_ref);

/\* move the head to point to the new node \*/

(\*head\_ref) = new\_node;

}

int detectLoop(struct Node\* list)

{

struct Node \*slow\_p = list, \*fast\_p = list;

while (slow\_p && fast\_p && fast\_p->next) {

slow\_p = slow\_p->next;

fast\_p = fast\_p->next->next;

if (slow\_p == fast\_p) {

return 1;

}

}

return 0;

}

/\* Driver program to test above function\*/

int main()

{

/\* Start with the empty list \*/

struct Node\* head = NULL;

push(&head, 20);

push(&head, 4);

push(&head, 15);

push(&head, 10);

/\* Create a loop for testing \*/

head->next->next->next->next = head;

if (detectLoop(head))

printf("Loop found");

else

printf("No Loop");

return 0;

}