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1: // C program to detect loop in a linked list
2: #include <stdio.h>
3: #include <stdlib.h>
4:
5: /* Link list node */
6: struct Node {
7:     int data;
8:     struct Node* next;
9: };
10:
11: void push(struct Node** head_ref, int new_data)
12: {
13:     /* allocate node */
14:     struct Node* new_node
15:         = (struct Node*)malloc(sizeof(struct Node));
16:
17:     /* put in the data */
18:     new_node->data = new_data;
19:
20:     /* link the old list off the new node */
21:     new_node->next = (*head_ref);
22:
23:     /* move the head to point to the new node */
24:     (*head_ref) = new_node;
25: }
26:
27: int detectLoop(struct Node* list)
28: {
29:     struct Node *slow_p = list, *fast_p = list;
30:
31:     while (slow_p && fast_p && fast_p->next) {
32:         slow_p = slow_p->next;
33:         fast_p = fast_p->next->next;
34:         if (slow_p == fast_p) {
35:             return 1;
36:         }
37:     }
38:     return 0;
39: }

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40:
41: /* Driver program to test above function*/
42: int main()
43: {
44:     /* Start with the empty list */
45:     struct Node* head = NULL;
46:
47:     push(&head, 20);
48:     push(&head, 4);
49:     push(&head, 15);
50:     push(&head, 10);
51:
52:     /* Create a loop for testing */
53:     head->next->next->next->next = head;
54:
55:     if (detectLoop(head))
56:         printf("Loop found");
57:     else
58:         printf("No Loop");
59:     return 0;
60: }
61:
```