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

struct Node
{
   int data;
   struct Node* next;
};

void printMiddle(struct Node *head)
{
   struct Node *slow_ptr = head;
   struct Node *fast_ptr = head;

   if (head!=NULL)
   {
      while (fast_ptr != NULL && fast_ptr->next != NULL)
      {
         fast_ptr = fast_ptr->next->next;
         slow_ptr = slow_ptr->next;
      }
      printf("The middle element is [%d]\n\n", slow_ptr->data);
   }
}

void push(struct Node** head_ref, int new_data)
{
   struct Node* new_node =
      (struct Node*) malloc(sizeof(struct Node));

   new_node->data = new_data;
```

```
    new_node->next = (*head_ref);

    (*head_ref) = new_node;
}

void printList(struct Node *ptr)
{
    while (ptr != NULL)
    {
        printf("%d->", ptr->data);
        ptr = ptr->next;
    }
    printf("NULL\n");
}

int main()
{
    struct Node* head = NULL;
    int i;

    for (i=10; i>0; i--)
    {
        push(&head, i);
        printList(head);
        printMiddle(head);
    }

    return 0;
}
```