```c
//CODEBLOCKS
//SHREYAS SAWANT 55 D7A
//Implement Stack ADT using linked list

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

void push();
void pop();
void display();

struct node
{
int val;
struct node *next;
};

struct node *head;

void main ()
{
    int choice=0;
    while(choice != 4)
    {
        printf("\nChose one from the below options");
        printf("\n1.Push\n2.Pop\n3.Show\n4.Exit");
        printf("\nEnter your choice \n");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1:
            {
                push();
                break;
            }
            case 2:
            {
                pop();
                break;
            }
            case 3:
            {
                display();
                break;
            }
            case 4:
            {
                break;
            }
            default:
            {
                printf("Please Enter valid choice ");
            }
        }
    }
}
void push ()
{
    int val;
    struct node *ptr = (struct node*)malloc(sizeof(struct node));
    if(ptr == NULL)
    {
        printf("Not able to push the element");
    }
    else
    {
        printf("Enter the value: ");
        scanf("%d",&val);
        if(head==NULL)
        {
            ptr->val = val;
            ptr -> next = NULL;
            head=ptr;
        }
        else
        {
            ptr->val = val;
            ptr->next = head;
            head=ptr;

        }
        printf("\nItem pushed\n");

    }
```

```
85  }
86
87  void pop()
88  {
89      int item;
90      struct node *ptr;
91      if (head == NULL)
92      {
93          printf("\nUnderflow\n");
94      }
95      else
96      {
97          item = head->val;
98          ptr = head;
99          head = head->next;
100         free(ptr);
101         printf("\nItem popped\n");
102
103     }
104 }
105 void display()
106 {
107     int i;
108     struct node *ptr;
109     ptr=head;
110     if(ptr == NULL)
111     {
112         printf("\nStack is empty\n");
113     }
114     else
115     {
116         printf("\nPrinting Stack elements \n");
117         while(ptr!=NULL)
118         {
119             printf("%d\n",ptr->val);
120             ptr = ptr->next;
121         }
122     }
123 }
124
```