

PALAK SHARMA

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```
#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;
printf("\n*****Stack operations using linked list*****\n");
printf("\n-----\n");
while(choice != 4)
{
printf("\n\nChose one from the below options...\n");
printf("\n1.Push\n2.Pop\n3.Show\n4.Exit");
printf("\n Enter your choice \n");
scanf("%d",&choice);
switch(choice)
{
case 1:
{
push();
break;
}
case 2:
{
pop();
break;
}
case 3:
{
display();
break;
}
case 4:
{
printf("Exiting....");
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("Item pushed");
}
}
}

```

```

void pop()
{
    int item;
    struct node *ptr;
    if (head == NULL)
    {
        printf("Underflow");
    }
    else
    {
        item = head->val;
        ptr = head;
        head = head->next;
        free(ptr);
        printf("Item popped");
    }
}
}

```

```

void display()
{
    int i;
    struct node *ptr;
    ptr=head;
    if(ptr == NULL)
    {
        printf("Stack is empty\n");
    }
    else
    {
        printf("Printing Stack elements \n");
        while(ptr!=NULL)
        {

```

```

printf("%d\n",ptr-
      ptr = ptr-
    }
  }
}

```

```

1.Push
2.Pop
3.Show
4.Exit
  Enter your choice
1
Enter the value32
Item pushed

Chose one from the below options...

1.Push
2.Pop
3.Show
4.Exit
  Enter your choice
1
Enter the value76
Item pushed

Chose one from the below options...

1.Push
2.Pop
3.Show
4.Exit
  Enter your choice
1
Enter the value54
Item pushed

Chose one from the below options...

1.Push
2.Pop
3.Show
4.Exit
  Enter your choice
3
Printing Stack elements
54
76
32

```

```

>val);
>next;

```