

Singly Linked Stack - Push, Pop, Linear Search...

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

```
struct Node
{
int data;
struct Node *next;
}*top = NULL;
```

```
void push(int);
void pop();
void display();
int search();
```

```
void main()
{
struct node *p = NULL;
int choice, value, result;
printf("\n:: Stack using Linked List ::\n"); while(1)
{
printf("\n***** MENU *****\n");
printf("1. Push\n2. Pop\n3. Display\n4. Search\n5. Exit\n");
printf("Enter your choice: ");

scanf("%d",&choice);
switch(choice)
{
```

```
case 1: printf("Enter the value to be insert:");
scanf("%d", &value);
push (value);
break;
case 2: printf("Enter the value to be delete:");
scanf("%d",&value);
pop (value);
break;
case 3: display ();
break;
case 4:printf ("Enter the value to be search:");
scanf("%d",&value);
result = search(p, value);
if (result)
{
printf("%d not found in the list.\n", value);
}
else
{
printf("%d found in the list.\n", value);
}
exit(&p);
search (value);
break;
case 5: exit ( 0 );
default: printf("\nWrong selection!!!Please try again!!!
\n");
}
}
}
```

```
void push (int value)
{
    struct Node *newNode;
    newNode= (struct Node*)malloc(sizeof(struct Node));

    newNode->data = value;
    if(top == NULL)
        newNode->next = NULL;
    else
        newNode->next = top;
    top = newNode;
    printf("\nInsertion is Success!!!\n");
}

void pop (int value)
{
    if(top == NULL)
        printf("\nStack is Empty!!!\n");
    else
    {
        struct Node *temp = top;
        printf("\nDeleted element: %d", temp->data);
        top = temp->next;
        free(temp);
    }
}

void display ()
{
    if(top == NULL)
        printf("\nStack is Empty!!!\n");
    else
```


```
{
struct Node *temp = top;
while(temp->next != NULL)
{
printf("%d--->",temp->data);
temp = temp -> next;
}
printf("%d--->NULL",temp->data);
}
}
int search (int value)
{
struct Node*temp;
temp= top;
while (temp != NULL)
{
if (temp->data != value)
{
temp = temp->next;
}
}
}
```



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Stop

main.c

```
9  #include<stdio.h>
10 #include<conio.h>
11
12 struct Node
13 {
14     int data;
15     struct Node *next;
16 }*top = NULL;
17
18 void push(int);
19 void pop();
20 void display();
21 int search();
22
23 void main()
24 {
25     struct node *p = NULL;
26     int choice, value, resul
27     printf("\n:: Stack using
28     while(1)
29     {
30         printf("\n***** MENU **
31         printf("1. Push\n2. Pop\
32         printf("Enter your choic
33         scanf("%d",&choice);
34         switch(choice)
35     }
```



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Stop

main.c

```
34 switch(choice)
35 {
36 case 1: printf("Enter th
37 scanf("%d", &value);
38 push (value);
39 break;
40 case 2: printf("Enter th
41 scanf("%d",&value);
42 pop (value);
43 break;
44 case 3: display ();
45 break;
46 case 4:printf ("Enter th
47 scanf("%d",&value);
48 result = search(p, value
49 if (result)
50 {
51 printf("%d not found in
52 }
53 else
54 {
55 printf("%d found in the
56 }
57 exit(&p);
58 search (value);
59 break;
60 case 5: exit ( 0 );
```





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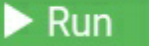
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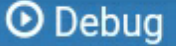
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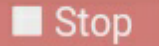
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main.c

```
61 default: printf("\nWrong
62 }
63 }
64 }
65 void push (int value)
66 {
67     struct Node *newNode;
68     newNode= (struct Node*)m
69     newNode->data = value; i
70     else
71     newNode->next = top; top
72 }
73 void pop (int value)
74 {
75     if(top == NULL)
76     printf("\nStack is Empty
77     else
78     {
79     struct Node *temp = top;
80     printf("\nDeleted elemen
81     top = temp->next;
82     free(temp);
83     }
84 }
85 void display ()
86 {
87     if(top == NULL)
```


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main.c

```
83 }
84 }
85 void display ()
86 {
87     if(top == NULL)
88         printf("\nStack is Empty\n");
89     else
90     {
91         struct Node *temp = top;
92         while(temp->next != NULL)
93         {
94             printf("%d--->", temp->data);
95             temp = temp->next;
96         }
97         printf("%d--->NULL", temp->data);
98     }
99 }
100 int search (int value)
101 {
102     struct Node*temp;
103     temp= top;
104     while (temp != NULL)
105     {
106         if (temp->data == value)
107         {
108             temp = temp->next;
109         }
110     }
111 }
```

input



52% 12:51 p.m.



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```
66 {  
67 struct Node *newNode;
```

input

5. Exit

Enter your choice: 1

Enter the value to be insert:4

Insertion is Success!!!

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice: 1

Enter the value to be insert:5

Insertion is Success!!!

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice:



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```
66 {  
67 struct Node *newNode;
```

input

3. Display

4. Search

5. Exit

Enter your choice: 2

Enter the value to be delete:5

Deleted element: 5

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice: 2

Enter the value to be delete:4

Deleted element: 4

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice:



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```
66 {  
67 struct Node *newNode;
```

input

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice: 2

Enter the value to be delete:4

Deleted element: 4

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice: 3

3--->2--->NULL

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice:



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```
66 {  
67 struct Node *newNode;
```



input

Deleted element: 4

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice: 3

3--->2--->NULL

***** MENU *****

1. Push

2. Pop

3. Display

4. Search

5. Exit

Enter your choice: 4

Enter the value to be search:2

2 found in the list.

...Program finished with exit co
de 136

Press ENTER to exit console.