STACK OPERATIONS USING LINKED LIST

```
 #include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void push();
void pop();
void search();
void display();
struct node
{
int data;
struct node *next;
};
struct node *top;
void main()
{
int ch;
while(ch!=5)
{
 printf("\n 1.PUSH \n 2.POP \n 3.LINEAR SEARCH \n 4.DISPLAY \n 5.EXIT \n ");
 printf("Enter your choice : ");
 scanf("%d",&ch);
 switch(ch)
 {
 case 1:push();break;
 case 2:pop();break;
```

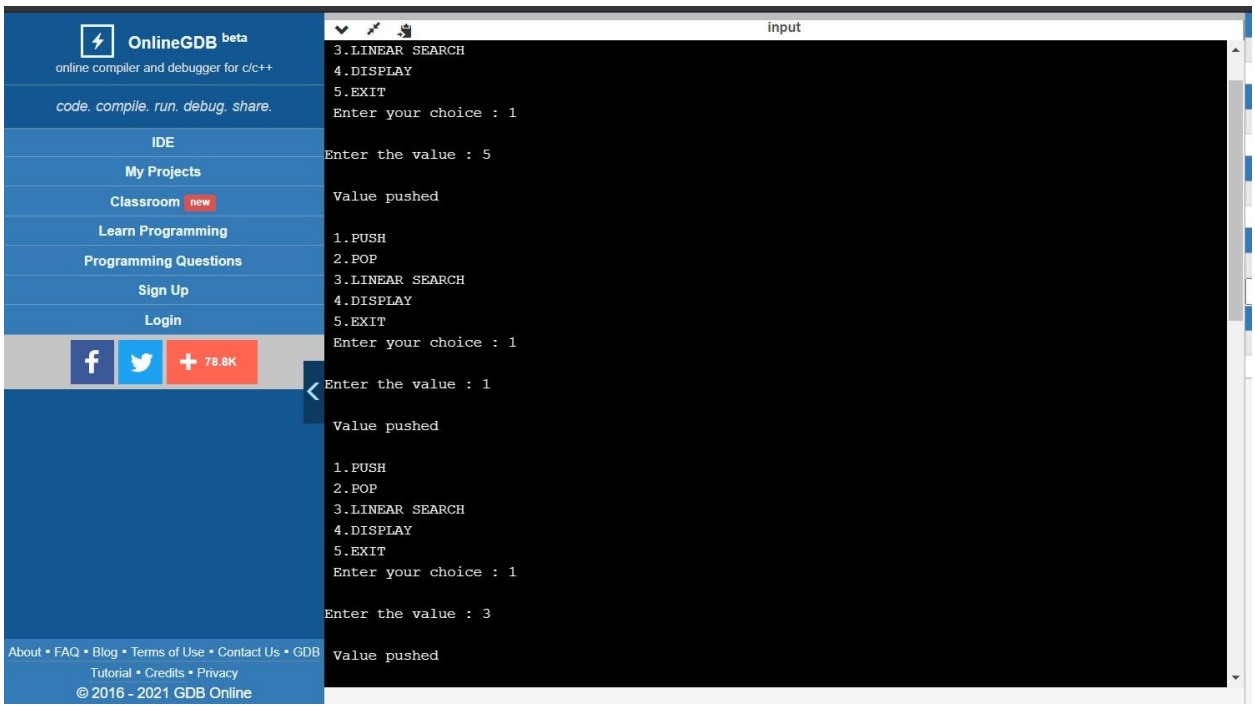
```
 case 3:search();break;
 case 4:display();break;
 case 5:exit(0);break;
 default:printf("\nINVALID INPUT");
 };
}
getch();
}
void push()
{
int val;
struct node *newnode;
newnode=(struct node*)malloc(sizeof(struct node));
 if(newnode==NULL)
 {
 printf("\nStack is full");
 }
 else
 {
 printf("\nEnter the value : ");
 scanf("%d",&val);
 if(top==NULL)
 {
 top=newnode;
 newnode->data=val;
 newnode->next=NULL;
 }
```

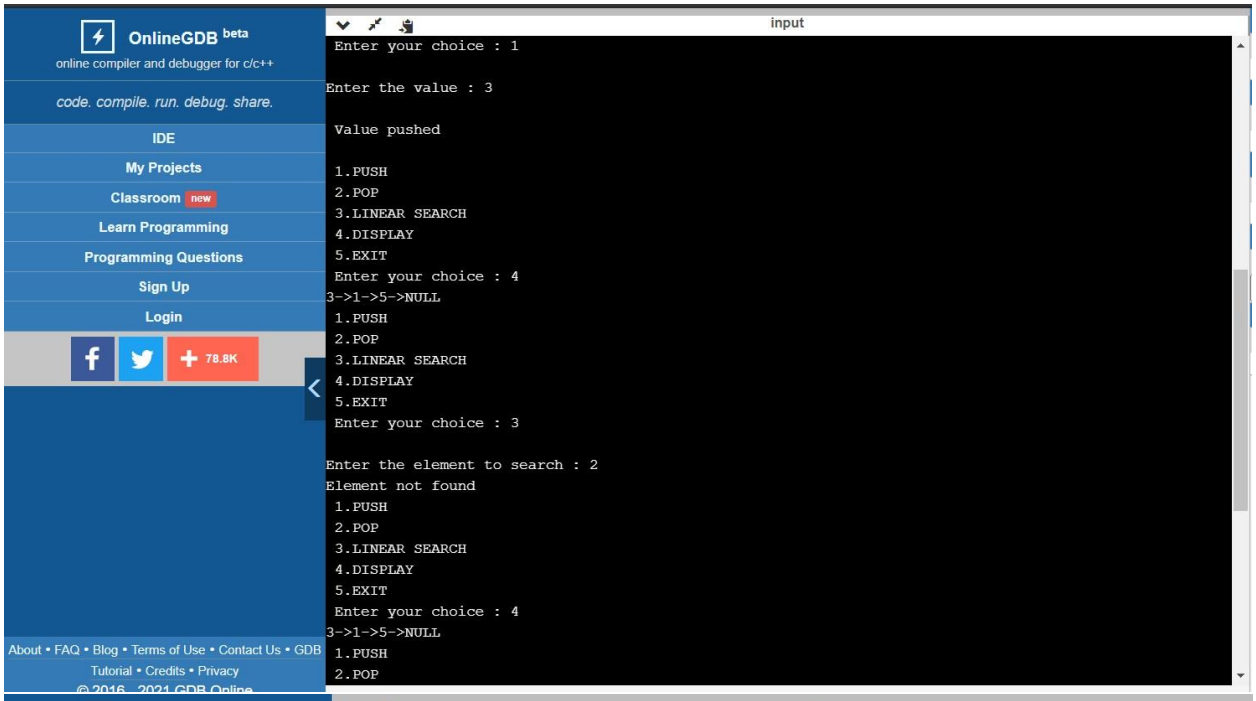
```
 else
 {
 newnode->data=val;
 newnode->next=top;
 top=newnode;
 }
 printf("\n Value pushed \n");
 }
}
void pop()
{
 if(top==NULL)
 {
 printf("\nStack is empty\n");
 }
 else
 {
 struct node*temp;
 temp=top;
 top=temp->next;
 free(temp);
 printf("\nValue Deleted\n");
 }
}
void search()
{
int key,flag;
```

```
struct node*temp;
printf("\nEnter the element to search : ");
scanf("%d",&key);
temp=top;
while(temp!=NULL)
 {
 if(temp->data==key)
 {
 flag=1;
 }
 temp=temp->next;
 }
 if(flag==1)
 {
 printf("Element found %d",key);
 }
 else
 {
 printf("Element not found");
 }
}
void display()
{
 if(top==NULL)
 {
 printf("\n Stack is empty ");
 }
```

```
else
{
struct node*temp;
temp=top;
while(temp->next!=NULL)
{
printf("%d->",temp->data);
temp=temp->next;
}
printf("%d->NULL",temp->data);
}
}
```

OUTPUT

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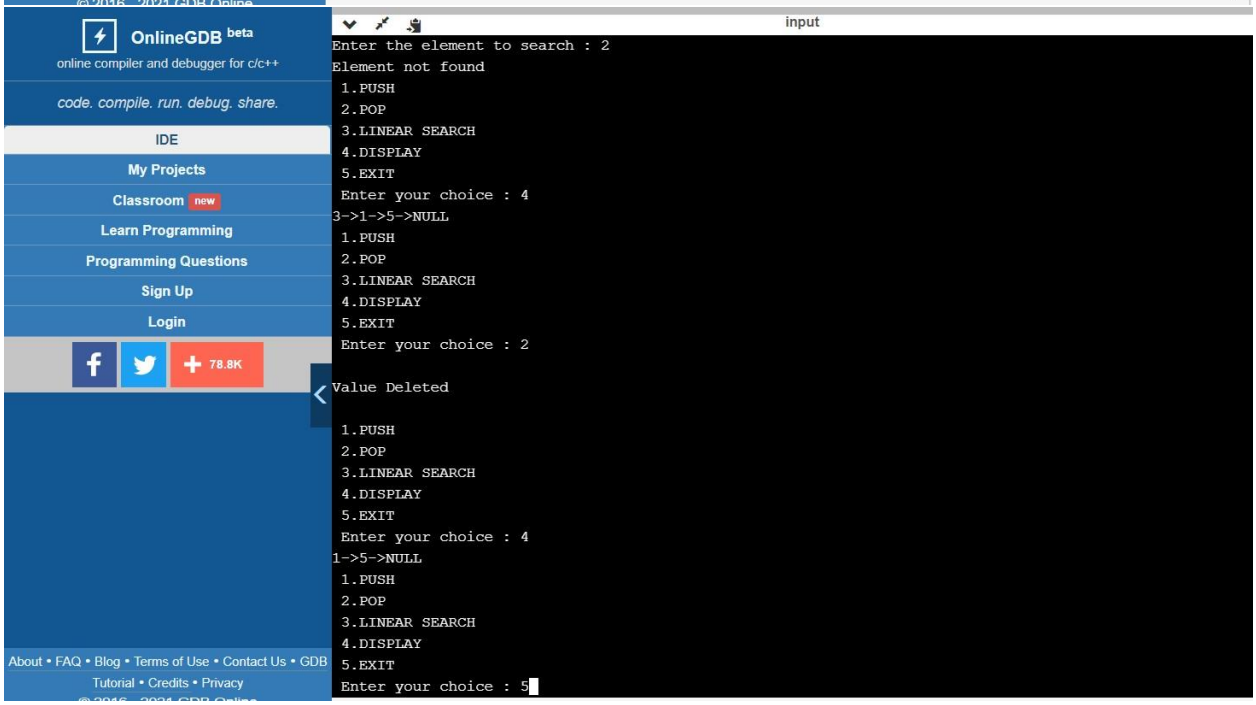
input
Enter your choice : 1
Enter the value : 3
Value pushed
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 4
3->1->5->NULL
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 3
Enter the element to search : 2
Element not found
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 4
3->1->5->NULL
1.PUSH
2.POP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input
Enter the element to search : 2
Element not found
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 4
3->1->5->NULL
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 2
Value Deleted
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 4
1->5->NULL
1.PUSH
2.POP
3.LINEAR SEARCH
4.DISPLAY
5.EXIT
Enter your choice : 5