



ULAB
UNIVERSITY OF LIBERAL ARTS
BANGLADESH

Course Title: Data Structure Lab

Course Code: CSE 1302

Submitted to:

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```

//Tazminur Rahman Tanim
//ID:242014124
#include<stdio.h>
#define max 10
int top=-1;
int stack[max];
void push(int element)
{
    if(top==max-1)
    {
        printf("Overflow\n");
    }
    else
    {
        top++;
        stack[top]=element;
        printf("%d pushed \n",stack[top]);
    }
}
void pop()
{
    if(top==0)
    {
        printf("Empty");
    }
    else
    {
        printf("%d popped\n",stack[top]);
        top--;
    }
}
void display()
{
    if(top==0)
    {
        printf("Stack is empty \n");
        return;
    }
    printf("Elements in stack:");
    for(int i=top; i>=0; i--)
    {
        printf("%d ",stack[i]);
    }
    printf("\n");
}
int main()
{
    push(11);
    push(12);
    push(13);
    push(14);
    push(15);
    push(16);
    push(17);
    push(18);
    push(19);
    push(20);
    display();
    pop(11);
    pop(12);
    pop(13);
    pop(14);
}

```

```
pop(15);  
display();  
}
```

Output result :

```
11 pushed  
12 pushed  
13 pushed  
14 pushed  
15 pushed  
16 pushed  
17 pushed  
18 pushed  
19 pushed  
20 pushed  
Elements in stack:20 19 18 17 16 15 14 13 12 11  
20 popped  
19 popped  
18 popped  
17 popped  
16 popped  
Elements in stack:15 14 13 12 11  
  
Process returned 0 (0x0)   execution time : 0.837 s  
Press any key to continue.
```

```

//Tazminur Rahman Tanim
//ID:242014124
#include<stdio.h>
#include<stdlib.h>
struct node
{
int data;
struct node *next;
};
struct node *head=NULL;
void push(int value){
struct node *newnode= malloc(sizeof(struct node));
newnode->data=value;
newnode->next=head;
head=newnode;
}
void pop()
{
struct node *temp;
if(head==NULL)
{
printf("Stack is empty");
}
else{
printf("Popped element %d \n",head->data);
temp=head;
head=head->next;
free(temp);
}
}
void display()
{
printf("Stack: ");
struct node *temp=head;
while(temp!=NULL)
{
printf("%d ",temp->data);
temp=temp->next;
}
printf("\n");
}
int main()
{
push(5);
push(15);
push(25);
push(35);
push(45);
display();
pop(5);
pop(15);
pop(25);
display();
}

```

Output Result :

```
Stack: 45 35 25 15 5
```

```
Popped element 45
```

```
Popped element 35
```

```
Popped element 25
```

```
Stack: 15 5
```

```
Process returned 0 (0x0)   execution time : 1.533 s
```

```
Press any key to continue.
```