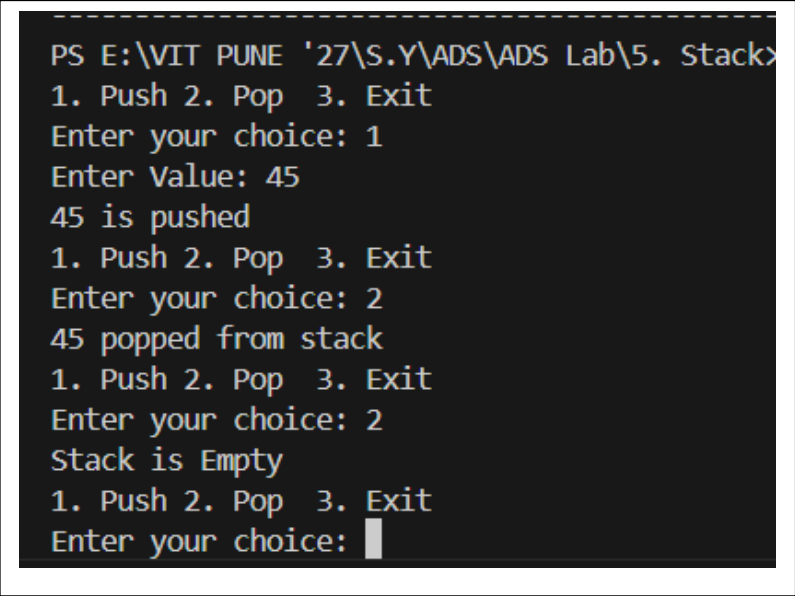


## Stack using Array

```
#include<stdio.h>
#include<stdlib.h>
#define MAX 50
int stack[MAX];
int top = -1;
void push (int value){
    if (top == MAX -1)
        printf("Stack is Full\n");
    else{
        stack[++top] = value;
        printf("%d is pushed\n", value); }
}
int pop(){
    if (top == -1){
        printf("Stack is Empty\n");
        return -1; }
    else
        return stack[top--];
}
int main(){
    int choice, value;
    while(1){
        printf("1. Push\n2. Pop\n3. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        switch (choice){
            case 1:
                printf("Enter Value: \n");
                scanf("%d", &value);
                push(value);
                break;
            case 2:
                value = pop();
                if (value != -1)
                    printf("%d popped from stack\n", value);
                break;
            case 3:
                exit(0);
            default:
                printf("Invalid choice\n");
        }
    }
}
```



```
PS E:\VIT PUNE '27\S.Y\ADS\ADS Lab\5. Stack>
1. Push 2. Pop 3. Exit
Enter your choice: 1
Enter Value: 45
45 is pushed
1. Push 2. Pop 3. Exit
Enter your choice: 2
45 popped from stack
1. Push 2. Pop 3. Exit
Enter your choice: 2
Stack is Empty
1. Push 2. Pop 3. Exit
Enter your choice: 3
```

## Stack using LinkedList

```
#include<stdio.h>
#include<stdlib.h>
struct Node{
    int data;
    struct Node* next;
};
struct Node* top = NULL;
void push(int value){
    struct Node* newNode = (struct Node*)malloc
(sizeof(struct Node));
    newNode->data = value;
    newNode->next = top;
    top = newNode;
    printf("%d is pushed\n", value);
}
int pop(){
    if(top == NULL){
        printf("Stack is empty\n");
        return -1;
    } else{
        struct Node* temp = top;
        int popped = temp->data;
        top = top->next;
        free(temp);
        return popped;
    }
}
int main() {
    int choice, value;
    while (1) {
        printf("1. Push\t2. Pop\t3. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        switch (choice) {
            case 1:
                printf("Enter value to push: ");
                scanf("%d", &value);
                push(value);
                break;
```

case 2:

```
        value = pop();
        if (value != -1) {
            printf("%d popped from stack\n", value);
        }
```

break;

case 3:

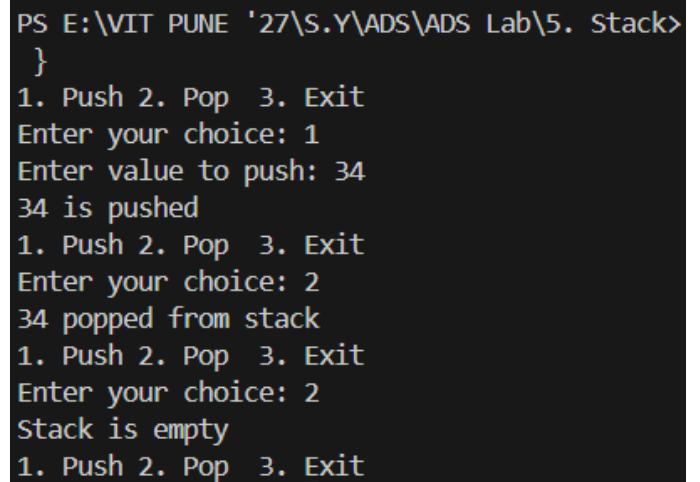
```
        exit(0);
```

default:

```
        printf("Invalid choice\n");
```

```
    }
```

```
}
```



```
PS E:\VIT PUNE '27\S.Y\ADS\ADS Lab\5. Stack>
}
1. Push 2. Pop 3. Exit
Enter your choice: 1
Enter value to push: 34
34 is pushed
1. Push 2. Pop 3. Exit
Enter your choice: 2
34 popped from stack
1. Push 2. Pop 3. Exit
Enter your choice: 3
Stack is empty
1. Push 2. Pop 3. Exit
```