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STACK OPERATIONS

```
#include <stdio.h>
#include <stdlib.h>
int stack[10], top=-1, i, item;
#define max 9

void push(){
    if (top==max-1){
        printf("Stack Overflow \n");
    }
    else{
        top++;
        printf("Enter Element to Push : ");
        scanf("%d", &item);
        stack[top] = item;
    }
}

int pop(){
    if (top==-1){
        printf("Stack Underflow \n");
        return -1;
    }
    item = stack[top];
    top--;
    return(item);
}
```

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```
void display (){
    if (top == -1){
        printf ("Stack Empty \n");
    }
    else{
        printf ("The stack is : \n");
        for (i= top; i>-1 ;i--){
            printf ("%d \n", stack[i]);
        }
    }
}

//Main
void main (){
    while (1){
        int userInput;
        printf (" Enter (1) to Push, (2) to Pop, (3) to display, and
            (4) to exit : " );
        scanf ("%d", & userInput);
        switch (userInput){
            case 1: push ();
                break;
            case 2: item = pop();
                if (item != -1){
                    printf ("The Popped Element is : %d \n", item);
                }
                break;
            case 3: display();
                break;
            case 4: exit(0)
                break;
        }
    }
}
```

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Output

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to Exit: 1
Enter Element to Push: 18

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to Exit: 1
Enter Element to Push: 45

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to Exit: 1
Enter Element to Push: 7

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to Exit: 1
Stack Overflow

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to Exit: 3
The Stack is:
7
45
18

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to exit: 2
The Popped Element is: 7

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to exit: 2
The Popped Element is: 45

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to exit: 2
The Popped Element is: 18

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Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to exit: 2
Stack Underflow

Enter (1) to Push, (2) to Pop, (3) to Display, and (4) to exit: 4