

Lab Program	Unit #	Marks for Continuous Evaluation	Program Details
1	1	10	<p>Write a program to simulate the working of stack using an array with the following:</p> <ul style="list-style-type: none"> a) Push b) Pop c) Display <p>The program should print appropriate messages for stack overflow, stack underflow</p>

The screenshot shows the wxSmith IDE interface with a C program titled "Untitled1.c".

```
#include <stdio.h>
#define MAX 5

int stack[MAX];
int top = -1;

/* Push Operation */
void push() {
    int item;
    if (top == MAX - 1) {
        printf("\nStack Overflow! Cannot push element.\n");
    } else {
        printf("Enter element to push: ");
        scanf("%d", &item);
        top++;
        stack[top] = item;
        printf("Element %d pushed successfully.\n", item);
    }
}

/* Pop Operation */
void pop() {
    if (top == -1) {
        printf("\nStack Underflow! Cannot pop element.\n");
    } else {
        printf("Popped element: %d\n", stack[top]);
        top--;
    }
}
```

The code implements a stack using an array named `stack` with a maximum size of `MAX` (5). The `push()` function adds elements to the top of the stack, while the `pop()` function removes elements from the top. The `top` variable keeps track of the current number of elements in the stack.

Untitled1.c - Code::Blocks 25.03

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<global>

Management Start here Untitled1.c

Projects Symbols

Workspace C:\Users\HP\Documents\Untitled1.c

```
Enter your choice: 2
Popped element: 4

--- STACK MENU ---
1. Push
2. Pop
3. Display
4. Exit
Enter your choice: 1
Enter element to push: 2
Element 2 pushed successfully.

--- STACK MENU ---
1. Push
2. Pop
3. Display
4. Exit
Enter your choice: 3

Stack elements:
2
2
2

--- STACK MENU ---
1. Push
2. Pop
3. Display
4. Exit
Enter your choice:
```

Logs & others

C:\Users\HP\Documents\Untitled1.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 71, Col 1, Pos 1592 Insert Read/Write default ENG IN 21:05 28-12-2025

5 22°C Mostly clear

Search

21:05 28-12-2025