

## LAB 2: STACK IMPLEMENTATION

Date: 28th sept 2020

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

int top=-1,stack[MAX];
void push();
void pop();
void display();

void main()
{
    int ch;
    while(1)
    {
        printf("\n-- Stack Menu --");
        printf("\n\n1.Push\n2.Pop\n3.Display\n4.Exit");
        printf("\n\nEnter your choice:");
        scanf("%d",&ch);

        switch(ch)
        {
            case 1: push();
                    break;

            case 2: pop();
                    break;

            case 3: display();
                    break;

            case 4: exit(0);

            default: printf("\nWrong Choice!!");
        }
    }
}

void push()
{
```

```

    int val;

    if(top==MAX-1)
    {
        printf("\nStack is full");
    }

    else
    {
        printf("\nEnter element to push:");
        scanf("%d",&val);
        top=top+1;
        stack[top]=val;
    }
}

void pop()
{
    if(top==-1)
    {
        printf("\nStack is empty!!");
    }
    else
    {
        printf("\nDeleted element is %d",stack[top]);
        top=top-1;
    }
}

void display()
{
    int i;
    if(top==-1)
    {
        printf("\nStack is empty!!");
    }
    else
    {
        printf("\nStack elements are: \n");
        for(i=top;i>=0;--i)
            printf("%d\n",stack[i]);
    }
}

```

}

## THE OUTPUT :

The image displays two screenshots of the OnlineGDB web interface, showing the execution of a C++ program that implements a stack menu. The interface includes a sidebar with navigation links (IDE, My Projects, Classroom, Learn Programming, Programming Questions, Sign Up, Login) and a main editor area with a terminal output.

**Top Screenshot:**

```
-- Stack Menu --
1.Push
2.Pop
3.Display
4.Exit
Enter your choice:3
Stack is empty!!
-- Stack Menu --
1.Push
2.Pop
3.Display
4.Exit
Enter your choice:1
Enter element to push:12
-- Stack Menu --
1.Push
2.Pop
3.Display
4.Exit
```

**Bottom Screenshot:**

```
3.Display
4.Exit
Enter your choice:1
Enter element to push:12
-- Stack Menu --
1.Push
2.Pop
3.Display
4.Exit
Enter your choice:2
Deleted element is 12
-- Stack Menu --
1.Push
2.Pop
3.Display
4.Exit
Enter your choice:4
```

another one

OnlineGDB  
online compiler and debugger for c/c++  
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Classroom new  
Learn Programming  
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<https://www.onlinegdb.com/#tab-stdin>

input  
-- Stack Menu --  
1.Push  
2.Pop  
3.Display  
4.Exit  
Enter your choice:1  
Enter element to push:12  
-- Stack Menu --  
1.Push  
2.Pop  
3.Display  
4.Exit  
Enter your choice:1  
Enter element to push:13  
-- Stack Menu --  
1.Push

OnlineGDB beta  
online compiler and debugger for c/c++  
code. compile. run. debug. share.  
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My Projects  
Classroom new  
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Run Debug Stop Share Save {} Beautify Language C  
input  
1.Push  
2.Pop  
3.Display  
4.Exit  
Enter your choice:1  
Enter element to push:15  
-- Stack Menu --  
1.Push  
2.Pop  
3.Display  
4.Exit  
Enter your choice:1  
Enter element to push:13  
-- Stack Menu --  
1.Push  
2.Pop  
3.Display  
4.Exit

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code. compile. run. debug. share.  
IDE  
My Projects  
Classroom new  
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input  
-- Stack Menu --  
1.Push  
2.Pop  
3.Display  
4.Exit  
Enter your choice:1  
Enter element to push:16  
-- Stack Menu --  
1.Push  
2.Pop  
3.Display  
4.Exit  
Enter your choice:1  
Stack is full  
-- Stack Menu --  
1.Push  
2.Pop