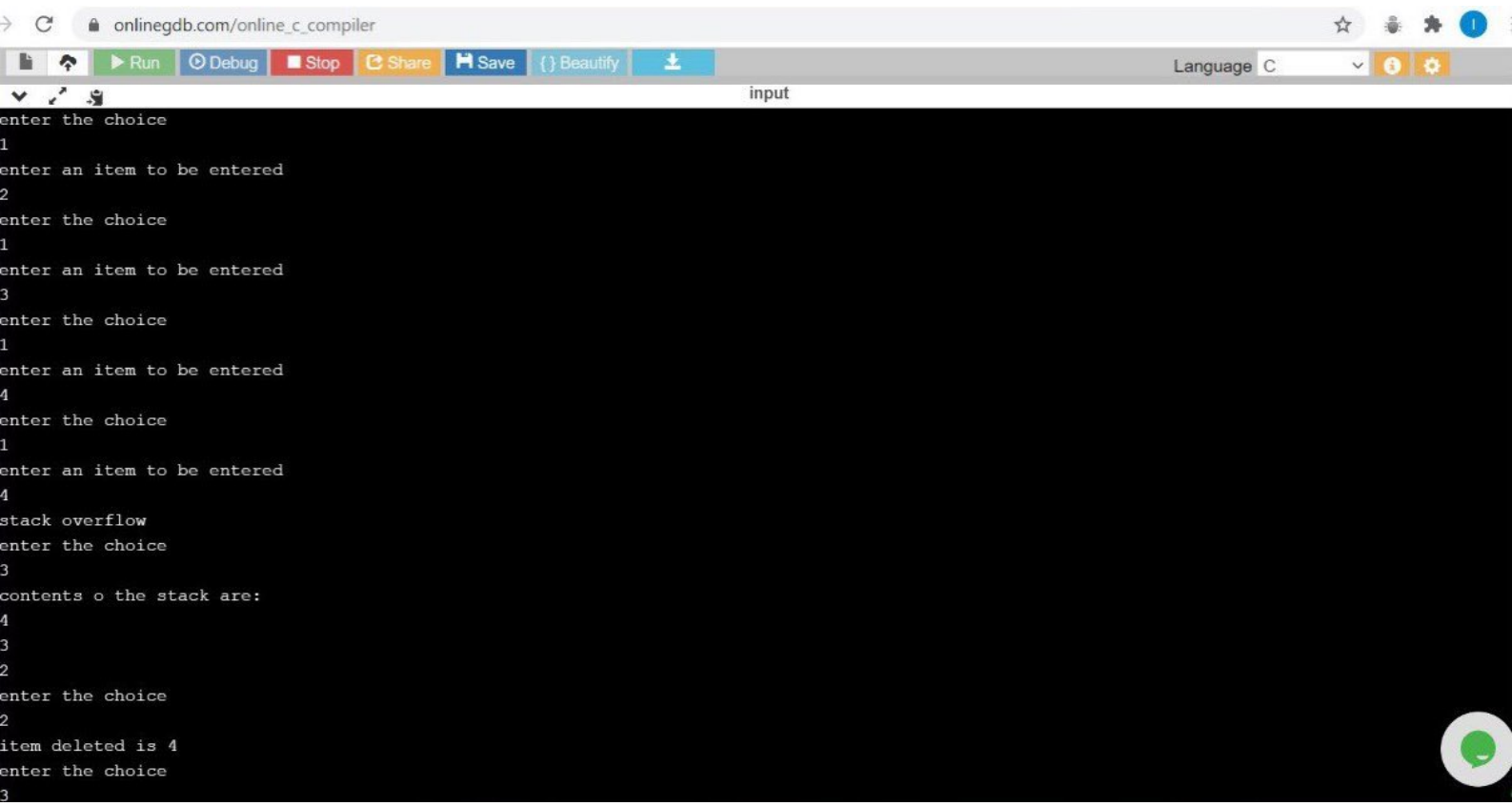

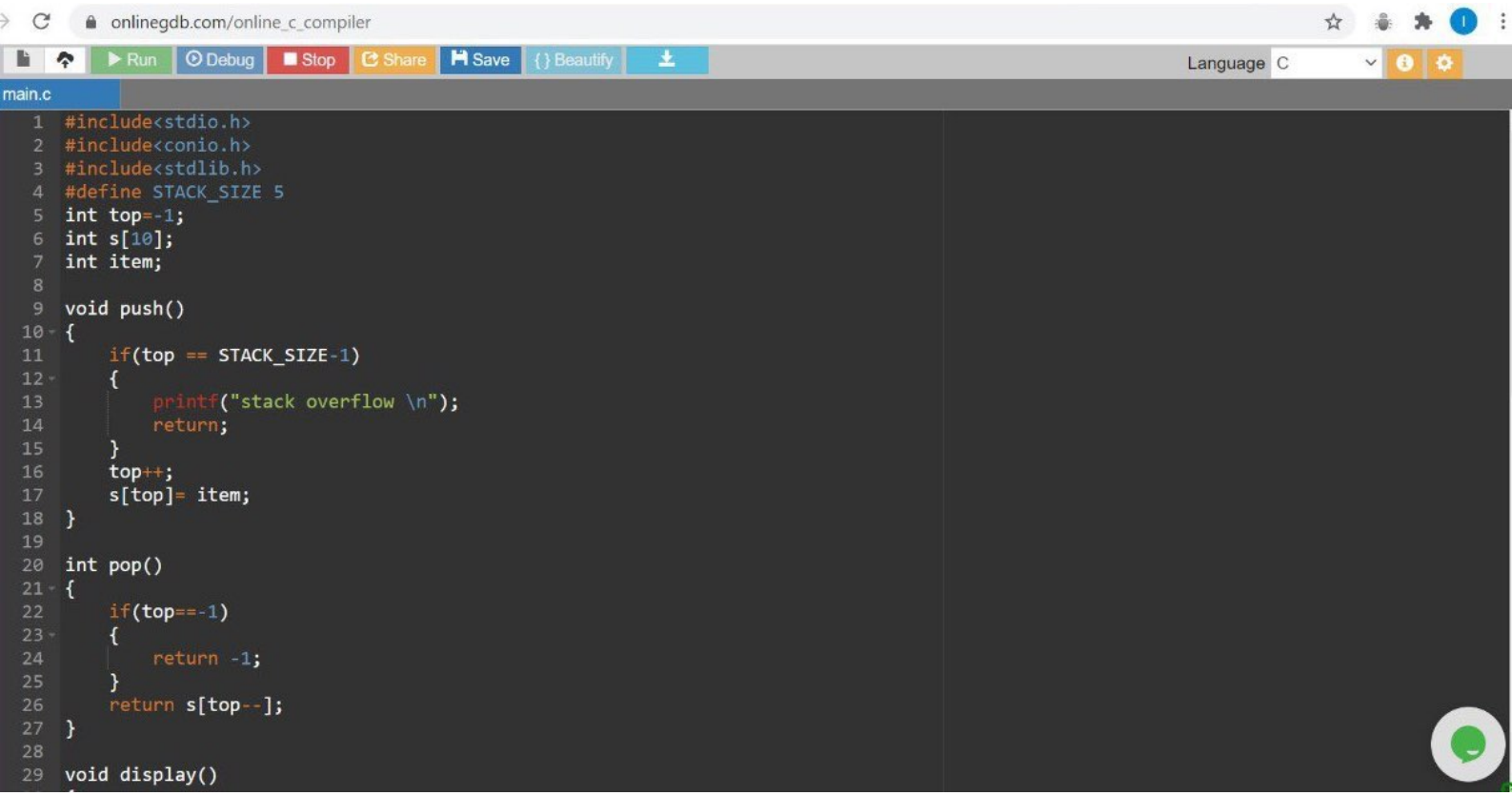

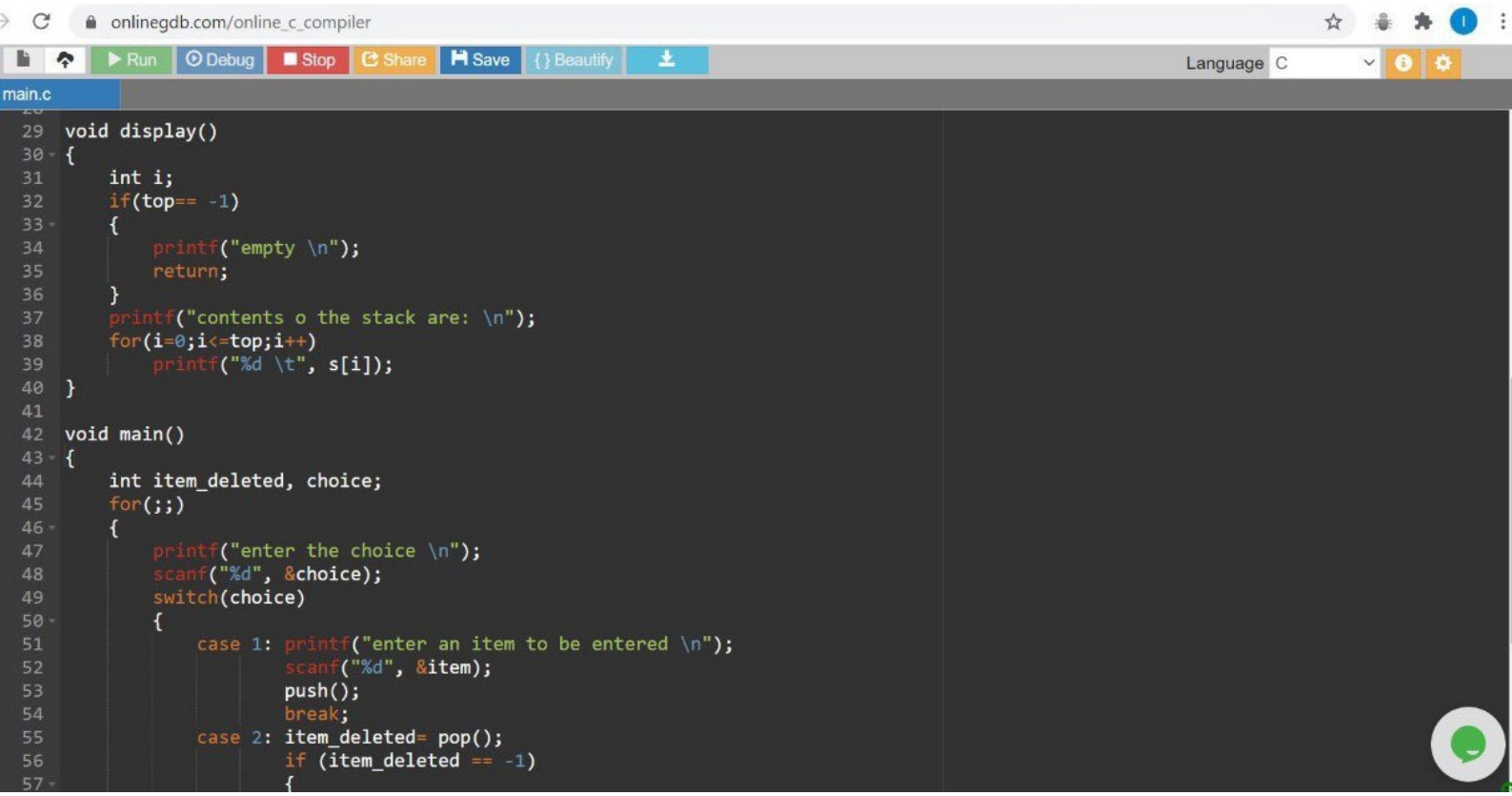

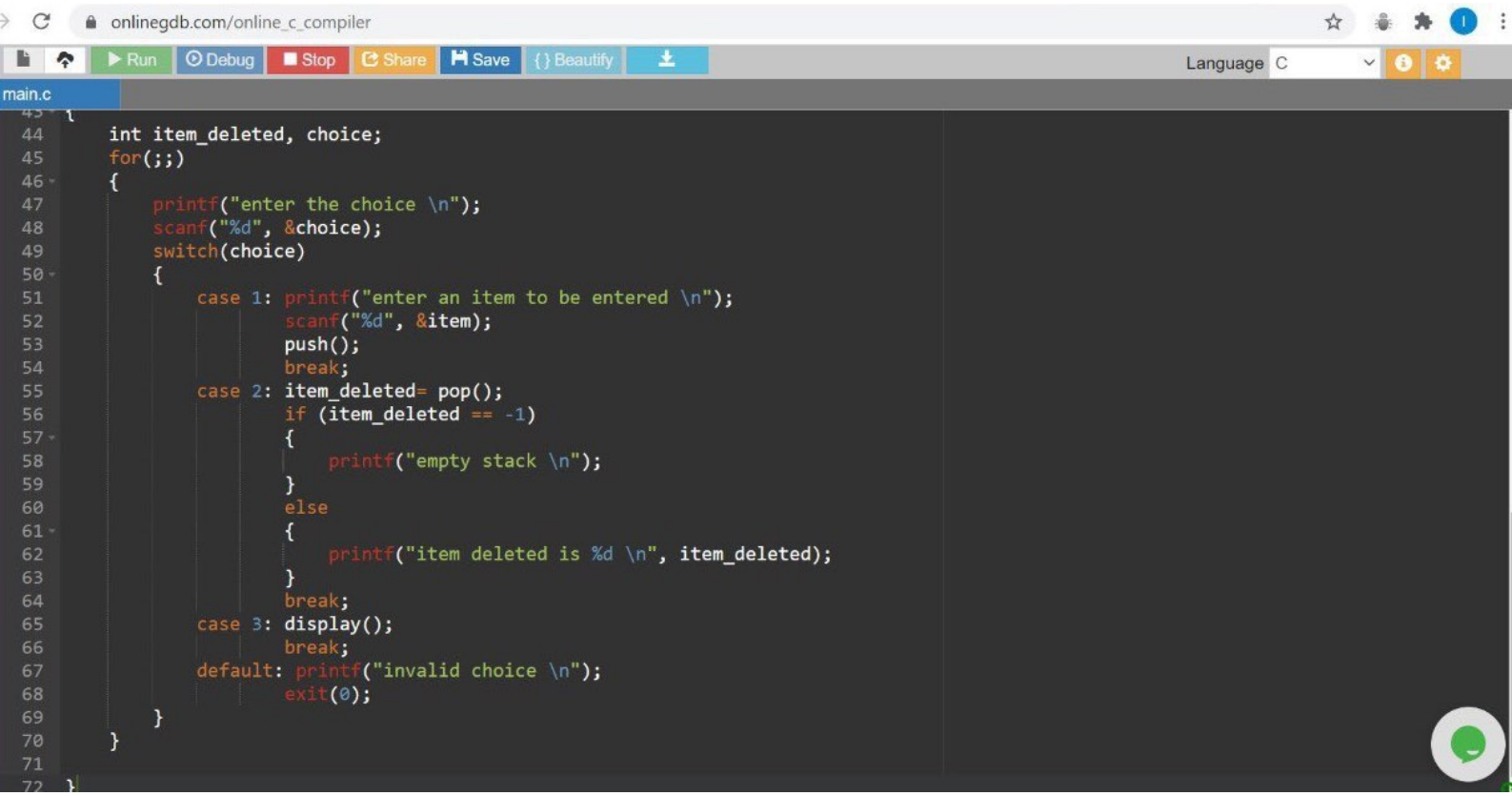

LAB PROGRAM - 1.

Write a program to simulate the working of stack using an array with the following

- push
- pop
- display

The program should print appropriate messages for 'overflow' and 'underflow'.

```
#include <stdio.h>
#include <conio.h>
#include <process.h> stdlib.h>
#define STACK_SIZE 5
int top = -1;
int s[10];
int item;

void push()
{
    if( top == -1) stack = STACK_SIZE - 1)
    {
        printf(" Overflow \n");
        return;
    }
    top++;
    s[top] = item;
}

int pop()
{
    if( top == -1)
    {
        return -1;
    }
    return s[top--];
}
```

```
void display()
{ int i;
  if(top==-1)
    { printf("empty \n");
      return;
    }
  printf("contents of the stack are \n");
  for(i=0; i<=top; i++)
     printf("%d \t", s[i]);

}

void main()
{
  int item_deleted, choice;
  scanf("%d", &choice);
  switch(choice)
    {
      case 1: printf("Enter an item to be entered \n");
              scanf("%d", &item);
              push();
              break;
      case 2: item_deleted = pop();
              if(item_deleted==-1)
                 printf("underflow");
              else
                 printf("%d", item_deleted);
              break;
      case 3: display();
              break;
      default: exit(0);
    }
}
```

Enter a choice
1
Enter an item to be entered.
2
Enter a choice
1
Enter an item to be entered
3.
Enter a choice
1.
Enter an item to be entered.
4.
Enter a choice
2.
The item deleted is 4.
Enter a choice 3.
~~3~~ 2 3 Enter a choice.
1.
Enter an item to be entered.
4.
Enter a choice
1.
~~&~~ Enter an item to be entered.
~~&~~ 5.
Enter ~~an item to be entered~~ choice.
1.
Enter an item to be ~~to~~ entered.
6.
Enter a choice
1.
Enter an item to be entered
7.
Underflow.