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

a) Push

b) Pop

c) Display The program should print appropriate messages for stack overflow, stack underflow

**CODE**

#include<stdio.h>

#include<conio.h>

#include<stdlib.h>

#define STACK\_SIZE 5

int top=-1,st[5];

void push();

void pop();

void display();

void main()

{

int ch;

for(;;)

{

printf("\nStack 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("\nInvalid option!! Try again");

}

}

}

void push()

{

int item;

if(top==STACK\_SIZE-1)

{

printf("\nStack Overflow\n");

}

else

{

printf("\nEnter element to be entered in stack:");

scanf("%d",&item);

top=top+1;

st[top]=item;

}

}

void pop()

{

if(top==-1)

{

printf("\nStack Underflow\n");

}

else

{

printf("\nThe value deleted from stack is: %d",st[top]);

top=top-1;

}

}

void display()

{

int i;

if(top==-1)

{

printf("\nStack is empty\n");

}

else

{

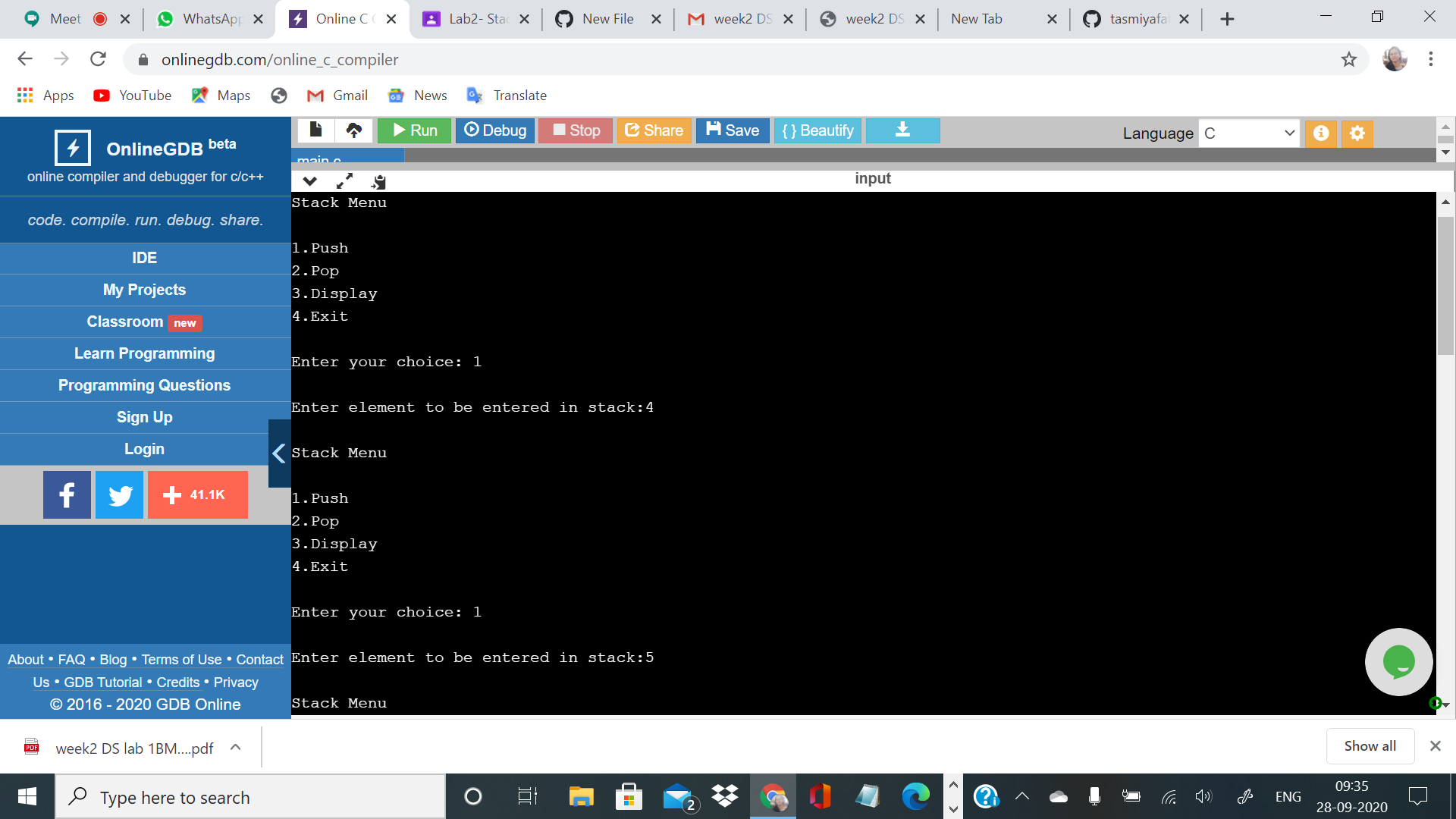
printf("\nContents of the stack are: \n");

for(i=top;i>=0;--i)

printf("%d\n",st[i]);

}

}

**OUTPUT**

