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LAB 2: Stack Implementation

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 <stdlib.h>

#define SIZE 10

void push(int);

void pop();

void display();

int stack[SIZE], top = -1;

void main()

{

int value, choice;

while(1){

printf("\n \*\*\*\*\* MENU \*\*\*\*\* \n");

printf("\n 1. Push \n 2. Pop \n 3. Display \n 4. Exit");

printf("\n Enter your choice : ");

scanf("%d",&choice);

switch(choice){

case 1: printf("Enter the value to be inserted: \n");

scanf("%d",&value);

push(value);

break;

case 2: pop();

break;

case 3: display();

break;

case 4: exit(0);

default: printf("\n Invalid selection! ");

}

}

}

void push(int value){

if(top == SIZE-1)

printf("\n Stack Overflow! ");

else{

top++;

stack[top] = value;

printf("\n Element inserted successfully! ");

}

}

void pop()

{

if(top == -1)

printf("\n Stack underflow!");

else{

printf("\n Element deleted: %d",stack[top]);

top--;

}

}

void display(){

if(top == -1)

printf("\n Stack is empty ");

else{

int i;

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

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

{

printf("%d\t", stack[i]);

}

}

}

OUTPUT:





