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/*STACK -> linear data structure which follow the principle of LIFO*/
#include<stdio.h>
#include <stdlib.h>
#define MAX 5
void push();
void pop();
void display();
struct stack{
int arr[MAX];
int top;
}st;
int main(){
int choice;
st.top=-1;
do{
printf("1. push\n");
printf("2. pop\n");
printf("3. display\n");
printf("4. exit\n");
scanf("%d",&choice);
switch(choice){
case 1:
push();
break;
case 2:
pop();
break;
case 3:
display();
break;
case 4:
exit(0);
break;
default:
printf("Wrong Entry Try Again!\n ");
break;
}while(choice !=4 );
return 0;
}

void push(){
int item;
if(st.top == MAX-1 )
printf("stack overflow\n");
else
printf("Enter the element to push :");
scanf("%d",&item);
st.top++;
st.arr[st.top]=item;
}

void pop(){
int item;
if( st.top==-1 )
printf("stack underflow\n");
else
item = st.arr[st.top];
st.top-- ;
printf("%d was popped\n",item);
}

void display(){
if( st.top==-1 )
printf("stack is empty\n");
else
for(int i=st.top;i>=0;i--)
printf("%d\n",st.arr[i]);
}
```