1]

#include<stdio.h>

#define MAX 5

int stack[MAX];

int top=-1;

int isFull(){

return top == MAX-1;

}

int isEmpty(){

return top == -1;

}

void push(int value){

if(isFull()){

printf("Stack Overflow, Cannot push %d\n",value);

}else{

stack[++top]=value;

printf("%d pushed to stack\n",value);

}

}

void pop(){

if(isEmpty()){

printf("Stack Underflow! Nothing to pop\n");

}else{

printf("%d popped from stack\n",stack[top--]);

}

}

void peek(){

if(isEmpty()){

printf("Stack is empty!\n");

}else{

printf("Top element: %d\n",stack[top]);

}

}

void display(){

if(isEmpty()){

printf("Stack is empty!\n");

}else{

printf("Stack elements: ");

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

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

}

printf("\n");

}

}

int main(){

int choice,value;

while(1){

printf("\n--- Stack Menu ---\n");

printf("1. Push\n2. Pop\n3. Peek\n4. Display\n5. Exit\n");

printf("Enter your choice: ");

scanf("%d",&choice);

switch(choice){

case 1:

printf("Enter value to push: ");

scanf("%d",&value);

push(value);

break;

case 2:

pop();

break;

case 3:

peek();

break;

case 4:

display();

break;

case 5:

return 0;

default:

printf("Invalid choice! Try again.\n"); }}}

