**11. Write a C program to implement Stack operations such as PUSH, POP and PEEK**

#include <stdio.h>

#include <stdlib.h>

#define MAX 5

int stack[MAX], top = -1;

void push(int value) {

if(top == MAX-1) {

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

} else {

stack[++top] = value;

printf("Pushed %d onto stack\n", value);

}

}

void pop() {

if(top == -1) {

printf("Stack Underflow! Cannot pop\n");

} else {

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

}

}

void peek() {

if(top == -1) {

printf("Stack is empty\n");

} else {

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

}

}

void display() {

if(top == -1) {

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("\nStack Operations:\n");

printf("1. PUSH\n2. POP\n3. PEEK\n4. DISPLAY\n5. EXIT\n");

printf("Enter 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:

exit(0);

default:

printf("Invalid choice!\n");

}

}

return 0;

}