#include <stdio.h>

#include <stdlib.h>

#define MAX\_SIZE 100

int stack[MAX\_SIZE];

int top = -1;

void push(int value)

{

if (top == MAX\_SIZE - 1)

{

printf("Stack Overflow\n");

}

else

{

top++;

stack[top] = value;

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

}

}

void pop()

{

if (top == -1)

{

printf("Stack Underflow\n");

}

else

{

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

top--;

}

}

int peek()

{

if (top == -1)

{

printf("Stack is empty\n");

return -1;

} else

{

return stack[top];

}

}

void display()

{

if (top == -1)

{

printf("Stack is empty\n");

} else

{

printf("Stack elements:\n");

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

{

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

}

}

}

int main()

{

int choice, value;

while (1)

{

printf("\nStack Operations:\n");

printf("1. Push\n");

printf("2. Pop\n");

printf("3. Peek\n");

printf("4. Display\n");

printf("5. 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:

printf("Top element: %d\n", peek());

break;

case 4:

display();

break;

case 5:

printf("Exiting...\n");

exit(0);

default:

printf("Invalid choice\n");

}

}

return 0;

}