Push, Pop, Peek

#include <stdio.h>

#include <stdbool.h>

#define MAX\_SIZE 100

int stack[MAX\_SIZE];

int top = -1;

bool isFull() {

return top == MAX\_SIZE - 1;

}

bool isEmpty() {

return top == -1;

}

void push(int value) {

if (isFull()) {

printf("Stack is full. Cannot push %d.\n", value);

} else {

stack[++top] = value;

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

}

}

void pop() {

if (isEmpty()) {

printf("Stack is empty. Cannot pop.\n");

} else {

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

}

}

int peek() {

if (isEmpty()) {

printf("Stack is empty. Cannot peek.\n");

return -1;

} else {

return stack[top];

}

}

int main() {

push(10);

push(20);

push(30);

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

pop();

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

pop();

pop();

pop();

return 0;

}

OUTPUT

Pushed 10 onto the stack.

Pushed 20 onto the stack.

Pushed 30 onto the stack.

Top element: 30

Popped 30 from the stack.

Top element after pop: 20

Popped 20 from the stack.

Popped 10 from the stack.

Stack is empty. Cannot pop.

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Process exited after 0.03426 seconds with return value 0

Press any key to continue . . .