class Elem{

public int value;

public int min;

public Elem next;

public Elem(int value, int min){

this.value = value;

this.min = min;

}

}

public class Min\_Stack {

public Elem top;

// initialize your data structure here.

public Min\_Stack() {

}

public void push(int x) {

if(top == null){

top = new Elem(x, x);

}else{

Elem e = new Elem(x, Math.min(x,top.min));

e.next = top;

top = e;

}

}

public void pop() {

if(top == null)

return;

Elem temp = top.next;

top.next = null;

top = temp;

}

public int top() {

if(top == null)

return -1;

return top.value;

}

public int getMin() {

if(top == null)

return -1;

return top.min;

}

}