public class ArrayStack {

private int capacity;

private int top = 0;

private String[] storage;

public ArrayStack(int size) {

// assign the value of size to capacity

capacity=size;

storage = new String[capacity];

}

public void show() {

// the top of the stack starts from array[0] then newer item gets added on top of another until it reaches its capacity limit

for (int j = capacity-1; j >= 0; j--) {

for (int i = capacity-1; i >= 0; i--) {

System.out.print("stack[" + j-- + "] = " + storage[i]);

}

}

System.out.println();

}

private boolean isEmpty() {

if (storage == null) {

System.out.println("Storage is Empty.");

System.out.println();

return true;

}

return false;

}

private boolean isFull() {

if (top == capacity) {

System.out.print("Storage is Full.");

System.out.println();

return true;

}

return false;

}

public void push(String value) {

if (isFull()) {

// print error message

System.out.println("Add failed. Element did not push");

System.out.println();

} else {

System.out.println("... trying to push on stack[" + top + "] ...");

storage[top] = value;

top++;

System.out.println(value + " was successfully added.");

System.out.println();

}

}

public void pop() {

if (isEmpty()) {

// print error message

System.out.println("Remove failed. No element to pop.");

System.out.println();

} else {

System.out.println("... trying to pop stack[" + (top-1) + "] ...");

storage[top] = null;

top--;

System.out.println(storage[top] + " was successfully removed.");

System.out.println();

}

}

public void peek() {

if (storage[top] == storage[0]) {

System.out.println("PEEK TOP = " + storage[top]);

System.out.println();

} else {

System.out.println("PEEK TOP = " + storage[top-1]);

System.out.println();

}

}

public static void main(String[] args) {

ArrayStack storage = new ArrayStack (10);

System.out.println("STORAGE CAPACITY = " + storage.capacity);

System.out.println();

storage.show();

storage.pop();

storage.peek();

storage.push("one");

storage.show();

storage.peek();

storage.push("two");

storage.show();

storage.peek();

storage.push("three");

storage.show();

storage.peek();

storage.push("four");

storage.show();

storage.peek();

storage.push("five");

storage.show();

storage.peek();

storage.push("six");

storage.push("seven");

storage.push("eight");

storage.push("nine");

storage.push("ten");

storage.show();

storage.peek();

storage.push("eleven");

storage.push("tweleve");

storage.show();

}

}