1)

import java.util.\*;

import java.util.Stack;

public class Main

{

public static void main(String[] args) {

Stack<Character> st=new Stack<>();

String val="abbca";

for(char str: val.toCharArray()){

if (!st.isEmpty() && st.peek() == str) {

st.pop();

}

else{

st.push(str);

}

}

StringBuilder n=new StringBuilder();

for(char ch:st){

n.append(ch);

}

System.out.print(n.toString());

}

}

2)

import java.util.\*;

public class Main {

public static void main(String[] args) {

int[] price = {100, 80, 60, 70, 60, 75, 85};

int n = price.length;

int[] span = new int[n];

Stack<Integer> st = new Stack<>();

for (int i = 0; i < n; i++) {

while (!st.isEmpty() && price[st.peek()] <= price[i]) {

st.pop();

}

if (st.isEmpty()) {

span[i] = i + 1;

} else {

span[i] = i - st.peek();

}

st.push(i);

}

for (int s : span) {

System.out.print(s + " ");

}

}

}

3)

import java.util.\*;

public class Main {

public static boolean isBalanced(String str) {

Stack<Character> stack = new Stack<>();

for (char ch : str.toCharArray()) {

if (ch == '(' || ch == '{' || ch == '[') {

stack.push(ch);

}

else if (ch == ')' || ch == '}' || ch == ']') {

if (stack.isEmpty()) return false;

char top = stack.pop();

if ((ch == ')' && top != '(') ||

(ch == '}' && top != '{') ||

(ch == ']' && top != '[')) {

return false;

}

}

}

return stack.isEmpty();

}

public static void main(String[] args) {

String input = "((()))";

if (isBalanced(input)) {

System.out.println("Balanced");

} else {

System.out.println("Not Balanced");

}

}

}