**private** **static** String longestCS(String a, String b) {

**if** (a == **null** || b == **null** || a.length() == 0 || b.length() == 0) {

**return** "";

}

**if** (a.equals(b)) {

**return** a;

}

int[][] matrix = **new** int[a.length()][];

int maxLength = 0;

int maxI = 0;

**for** (int i = 0; i < matrix.length; i++) {

matrix[i] = **new** int[b.length()];

**for** (int j = 0; j < matrix[i].length; j++) {

**if** (a.charAt(i) == b.charAt(j)) {

**if** (i != 0 && j != 0) {

matrix[i][j] = matrix[i - 1][j - 1] + 1;

} **else** {

matrix[i][j] = 1;

}

**if** (matrix[i][j] > maxLength) {

maxLength = matrix[i][j];

maxI = i;

}

}

}

}

**return** a.substring(maxI - maxLength + 1, maxI + 1);

}