



q4aa

```

public class q2{

public static void main(String[] args) {

String S1 = "ACCCGTCGAGTGCGCGCGGAAGCCGGCCG";
String S2 = "GTCGTTCGGAATGCCGTTGCTCTGTAAA";
String lcs = longestCommonSubsequence(S1, S2);

System.out.println("Longest Common Subsequence: " + lcs);

}

public static String longestCommonSubsequence(String S1, String
S2) {

int m = S1.length();
int n = S2.length();

int[][] dp = new int[m + 1][n + 1];

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

if (i == 0 || j == 0) {

dp[i][j] = 0;

} else if (S1.charAt(i - 1) == S2.charAt(j - 1)) {

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

} else {

dp[i][j] = Math.max(dp[i - 1][j], dp[i][j - 1]);

}

}

}

StringBuilder lcs = new StringBuilder();

int i = m, j = n;

while (i > 0 && j > 0) {

if (S1.charAt(i - 1) == S2.charAt(j - 1)) {

lcs.insert(0, S1.charAt(i - 1));

i--;

j--;

} else if (dp[i - 1][j] > dp[i][j - 1]) {

i--;

} else {


```

