Input：序列X,Y；

Output：对齐后的X,Y序列与最长公共子序列。

第一步：求出X,Y的最长公共子序列R，与长度LR，复制r=R；

第二步：对R中的第一个碱基，X中的第一个碱基与R不相同，则判断后一个，直到第x个碱基，使二者相同。对Y做同样操作得出y。若x小于y，则在X的第x个碱基前加入（y-x）个占位符‘Y’；反之则在Y的第y个碱基前加入（y-x）个占位符‘Y’。

第三步：在r的第一个碱基之前加入占位符，直到这个碱基的序数等于x。

之后同理，对R的第2,3…LR个元素进行处理，最后进行输出。

第四部：对于每一个占位符Y（假设序数为index），做纵向比较，也就是说，取出所有序列中序数为index的，以出现概率最大的作为这个位置上的碱基（若Y的概率最大，那就取Y）。

Input: sequence X,Y;

Output: The aligned X,Y sequence and the longest common subsequence.

Step 1: Find the longest common subsequence R of X,Y, and length LR, copy r=R;

Step 2: For the first base in R, if the first base in X is not the same as R, then judge the latter, until the x base, so that they are the same. You do the same thing with Y and you get y. If x is less than y, add (y-x) placeholder 'y' before the xth base of X; On the contrary, (Y-x) placeholder 'Y' is added before the yth base of Y.

Step 3: Add placeholders before the first base of r until the ordinal number of this base equals x.

And then the same thing happens for R 2,3... LR elements are processed and finally output.

Step 4: For each placeholder Y (assuming the ordinal number is index), make a vertical comparison, that is, take the ordinal number index of all the sequences, and take the most probable occurrence as the base at this position (if the probability of Y is the highest, then take Y).