LCS:

Given a text and a String I have to count the number of distinct occurrences of the string In the text.

IDEA:

I have used LCS to count the occurences.If the lenth of the given string reach its original length I count that . when both character matched I have increased the length by one;

```
#include<bits/stdc++.h>
using namespace std;
int dp[1005][1005];
string a,b;
int ln1,ln2;
int mxx = 1000000;
int cn;
int lcs(int i,int j)
{
   if(i == ln1)return (ln2-j);
   if(j == ln2)return (ln1-i);

   if(dp[i][j]!=-1)
      return dp[i][j];

   int ret1 = mxx,ret2 = mxx,ret3 = mxx,ret4 = mxx;
if(a[i] == b[j])
      ret1 =  lcs(i+1,j+1);
   else
   {
      ret4 = 1 + lcs(i+1,j);///changed
      ret3 = 1 + lcs(i,j+1); ///insert;
   }
   return dp[i][j] = min(ret4,min(ret1,min(ret2, ret3)));
}
void path(int i, int j)
{
    if(i == ln1 || j == ln2)
    {
       if(i == ln1)
       {
          for(int k=j;k<ln2;k++)
             cout<<b[k];
          return;
       }
       else
       {
          for(int k=i;k<ln1;k++)
             cout<<a[k];
          return;
       }
    }

   if(a[i] == b[j])
   {
      cout<<a[i];
      path(i+1,j+1);
   }
   else
   {
      int  ret4 = 1 + lcs(i+1,j);
      int ret3 = 1 + lcs(i,j+1);
      if(ret4<ret3)
      {
         cout<<a[i];
         path(i+1,j);
      }
      else
      {
       cout<<b[j];
         path(i,j + 1);
      }
   }
}
int main()
{
   int t;
   while(cin>>a)
   {
      b = a;
      reverse(b.begin(),b.end());
 ln1 = a.size(),ln2 = b.size();
      memset(dp,-1,sizeof(dp));
      int x = lcs(0,0);
      cout<<x/2<<" ";
      path(0,0);
      cout<<endl;
   }
}
```