

```

1  /*AUTHOR      : DEBRATH BANERJEE
2  STUDENT ID    : 50533487
3  COURSE ID     : CS6713
4  SUBJECT       : ADV ANALYSIS OF ALGORITHMS
5  INSTRUCTOR    : DR. Xiuzhen Huang
6  PROJECT       : Study and Implement the EXACT-APPEARANCE algorithm
7  */
8
9  #include<iostream>
10 #include<cstdlib>
11
12 using namespace std;
13
14 int main()
15 {
16     int i,j,k,temp;
17     char str[10][100]=
18     {
19         "atgaccgggatactgatAAAAAAAAGGGGGGGGggcgtacacattagataaacgtatgaagtacgttagactcggcgcgcgcgcg",
20         "accctatTTTTTTTgagcagatttagtgacctggaaaaaaatttgagtacaaaactTTTTTccgaataAAAAAAAAGGGGGGGa",
21         "tgagtatccctgggatgacttAAAAAAAAGGGGGGGTgctctcccgattttgaatatgtaggatcattcgccaggggtccga",
22         "gctgagaattggatgAAAAAAAAGGGGGGGTccacgcaatcggaaccaacgcggacccaaaggcaagaccgataaaggaga",
23         "tccctTTTtgcggtaattgtgcccgggaggctggttacgtagggaagccctaacggacttaataAAAAAAAAGGGGGGGcttatag",
24         "gtcaatcatgttcttgtgaatggatttAAAAAAAAGGGGGGGgaccgcttggcgcacccaaattcagtgtgggcgagcgcaa",
25         "cggTTTTTggcccttgttagaggcccccgTAAAAAAAAGGGGGGGCaattatgagagagctaattctatcgctgctgttcat",
26         "aacttgagttAAAAAAAAGGGGGGGctggggcacatacaagaggagtcttcttatcagttaatgctgtatgacactatgta",
27         "ttggcccatTggctaaaagcccaacttgacaaatggaagatagaatccttgcatAAAAAAAAGGGGGGGaccgaaaggggaag",
28         "ctggtgagcaacgacagattcttacgtgcattagctcgcttccgggatctaatagcacgaagcttAAAAAAAAGGGGGGGa"
29     };
30
31     char Motif[20]={"AAAAAAAAGGGGGGGG"};
32     j=0;
33
34     for(k=0;k<10;k++)
35     {
36         for(i=0;str[k][i]!='\0';i++)
37         {
38             if(str[k][i]==Motif[j])
39             {
40                 j++;
41             }
42             else if(str[k][i]!=Motif[j]&& Motif[j]!='\0')
43             {
44                 j=0;
45                 temp=0;
46             }
47             else if(Motif[j]=='\0')
48             {
49                 temp=1;
50                 cout<<"The EXACT APPEARANCE of Motif is present in given string "
51                 <<k+1<<" at position "<<(i+1)-j<<"\n";
52                 str[k][i+1]='\0';
53                 j=0;
54             }
55             else
56             {
57             }
58         }
59         if(temp!=1)
60         {
61             cout<<"No exact appearance of a common motif "<<"in string "<<k+1<<"\n";
62         }
63     }
64
65     return 0;
66 }

```