

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
#include<assert.h>
#define CHRLLEN 250000000
#define PATLEN 5000
char seq[CHRLLEN+1];
char exon[PATLEN+1];
int f[PATLEN];
int main()
{
    int n;
    int i, j;
    int Slen, Plen;
    int ans;

    while (scanf("%s", seq) != EOF)
    {
        Slen=strlen(seq);
        scanf("%d", &n);
        while (n--)
        {
            scanf("%s", exon);
            Plen=strlen(exon);

            /*compute failure function*/
            f[0]=-1;
            for (i=1; i<Plen; ++i)
            {
                j=f[i-1];
                while (j>=0 && exon[i]!=exon[j+1])
                    j=f[j];
                if (exon[i]==exon[j+1])
                    f[i]=j+1;
                else
                    f[i]=-1;
            }
            for (i=0; i<Plen; ++i)
            {
                if (i) putchar(' ');
                printf("%d", f[i]);
            }
            putchar('\n');

            /*string matching*/
            i=j=0;
            while (i<Slen && j<Plen)
            {
                if (seq[i]==exon[j])
                    ++i, ++j;
                else
                {
                    if (j==0)
                        ++i;
                    else
                        j=f[j-1]+1;
                }
            }
        }
    }
}
```

```
    }
    if(j<Plen)
    {
        assert(strstr(seq,exon)==NULL);
        printf("-1\n");
    }
    else
    {
        assert((int)( (strstr(seq,exon) - seq)/sizeof(char) ) == i-Plen);
        printf("%d\n",i-Plen);
    }
}
}
return 0;
}
```