

```
// Supplementary Data 6.pdf
```

```
#define LENGTH 10000
```

```
#define MOTIF 15
```

```
#define NUM_MOTIF 40
```

```
#include <stdio.h>
```

```
#include <string.h>
```

```
void main (void)
```

```
{
```

```
    FILE *fin, *fout;
```

```
    char query[MOTIF], seq[LENGTH], motif[NUM_MOTIF][MOTIF];
```

```
    int size, i, j, k, l, flag, cnt, num;
```

```
    float freq;
```

```
    fin = fopen("input.txt", "r");
```

```
    fgets(seq, LENGTH, fin);
```

```
    fclose(fin);
```

```
    fin = fopen("motif.txt", "r");
```

```
    fscanf(fin, "%d", &num);
```

```
    for (i = 0; i < num; i++)
```

```
        fscanf(fin, "%s", motif[i]);
```

```
    fclose(fin);
```

```
fout = fopen("output.txt", "w");
```

```
for (k = 0; k < num; k++) {
```

```
    for (l = 0; l < num; l++) {
```

```
        strcpy(query, motif[k]);
```

```
        strcat(query, motif[l]);
```

```
        size = strlen(query);
```

```
        cnt = 0;
```

```
        for (i = 0; seq[i + size] != '\0'; i++) {
```

```
            flag = 0;
```

```
            for (j = 0; j < size; j++) {
```

```
                if (query[j] == '*')                continue;
```

```
                if (query[j] != seq[i + j]) {
```

```
                    flag = 1;
```

```
                    break;
```

```
                }
```

```
            }
```

```
            if (flag == 0)                cnt++;
```

```
        }
```

```
freq = ((float)cnt / strlen(seq));
```

```
fprintf(fout, "%.5f ", (double)freq);
```

```
}
```

```
fprintf(fout, "\n");
```

```
}
```

```
fclose(fout);
```

```
}
```