



main.c



Run

Output

Clear

```
1  #include <stdio.h>
2  #include <ctype.h>
3  #include <string.h>
4
5  #define SIZE 5
6
7- char matrix[SIZE][SIZE] = {
8      {'M', 'F', 'H', 'I', 'K'},
9      {'U', 'N', 'O', 'P', 'Q'},
10     {'Z', 'V', 'W', 'X', 'Y'},
11     {'E', 'L', 'A', 'R', 'G'},
12     {'D', 'S', 'T', 'B', 'C'}
13 };
14
15- void formatInput(const char *input, char *output
    ) {
16     int len = 0;
17-     for (int i = 0; input[i]; i++) {
```

```
Formatted message:
    MUSTSEEYOUOVERCADOGANWESTCOMINGATONCEX
Encrypted message:
    UZTBDLGZPNNWLGTTUEROVLDBDUHFPERHWQSRZ
```

=== Code Execution Successful ===



main.c

```
27 int j = 0;
28 for (int i = 0; i < len; i += 2) {
29     temp[j++] = output[i];
30     if (i + 1 < len) {
31         if (output[i] == output[i + 1]) {
32             temp[j++] = 'X';
33             i--; // recheck second letter
34                 next round
35         } else {
36             temp[j++] = output[i + 1];
37         }
38     }
39     if (j % 2 != 0)
40         temp[j++] = 'X';
41
42     temp[j] = '\0';
43     strcpy(output, temp);
```

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Formatted message:  
MUSTSEYYOUOVERCADOGANWESTCOMINGATONCEX  
Encrypted message:  
UZTBDLGZPNNWLGTTUEROVLDBDUHFPERHWQSRZ

=== Code Execution Successful ===

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<pre>45 46 void findPosition(char c, int *row, int *col) { 47     for (int i = 0; i &lt; SIZE; i++) 48         for (int j = 0; j &lt; SIZE; j++) 49             if (matrix[i][j] == c) { 50                 *row = i; 51                 *col = j; 52                 return; 53             } 54 } 55 56 void encryptPair(char a, char b, char *out1, 57                 char *out2) { 58     int r1, c1, r2, c2; 59     findPosition(a, &amp;r1, &amp;c1); 60     findPosition(b, &amp;r2, &amp;c2); 61     if (r1 == r2) {</pre>			<pre>Formatted message:     MUSTSEEYOUOVERCADOGANWESTCOMINGATONCEX Encrypted message:     UZTBDLGZPNNWLGTTUEROVLDBDUHFPERHWQSRZ  === Code Execution Successful ===</pre>	



main.c

```
83 }  
84  
85 - int main() {  
86     char input[] = "Must see you over Cadogan  
      West. Coming at once.";  
87     char formatted[200], encrypted[200];  
88  
89     formatInput(input, formatted);  
90     encryptMessage(formatted, encrypted);  
91  
92     printf("Formatted message: %s\n", formatted  
      );  
93     printf("Encrypted message: %s\n", encrypted  
      );  
94  
95     return 0;  
96 }  
97
```

Run

Output

Clear

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=== Code Execution Successful ===