

Caesar cipher pseudo codeWhatsAppgithub - Google SearchOnline C Compiler - Programiz


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main.c

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```
1 #include <stdio.h>
2 #include <string.h>
3 #include <ctype.h>
4 void encrypt(char *plaintext, int *key, char *ciphertext) {
5     for (int i = 0; plaintext[i] != '\0'; i++) {
6         if (isalpha(plaintext[i])) {
7             char ch = tolower(plaintext[i]);
8             ciphertext[i] = ((ch - 'a' + key[i]) % 26) + 'a';
9         } else {
10             ciphertext[i] = plaintext[i];
11         }
12     }
13     ciphertext[strlen(plaintext)] = '\0';
14 }
15 void decrypt(char *ciphertext, int *key, char *plaintext) {
16     for (int i = 0; ciphertext[i] != '\0'; i++) {
17         if (isalpha(ciphertext[i])) {
18             char ch = tolower(ciphertext[i]);
```

Output

Clear

Encrypted (a): beokjdmsxzpmh

Key for part (b): 9 9 11 16 11 12 16 11 22 5 15 20 4

=== Code Execution Successful ===

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```
main.c
18 char ch = tolower(ciphertext[i]);
19 plaintext[i] = ((ch - 'a' - key[i] + 26) % 26) + 'a';
20 } else {
21     plaintext[i] = ciphertext[i];
22 }
23 }
24 plaintext[strlen(ciphertext)] = '\0';
25 }
26 void derive_key(char *plaintext, char *ciphertext, int *key) {
27     for (int i = 0; plaintext[i] != '\0'; i++) {
28         if (isalpha(plaintext[i]) && isalpha(ciphertext[i])) {
29             key[i] = (tolower(ciphertext[i]) - tolower
                (plaintext[i]) + 26) % 26;
30         } else {
31             key[i] = -1;
32         }
33     }
34 }
```

Output


Clear

```
Encrypted (a): beokjdmsxzpmh
Key for part (b): 9 9 11 16 11 12 16 11 22 5 15 20 4

=== Code Execution Successful ===
```

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```
32     }
33 }
34 }
35 int main() {
36     char plaintext1[] = "sendmoremoney";
37     int key1[] = {9, 0, 1, 7, 23, 15, 21, 14, 11, 11, 2, 8, 9};
38     char ciphertext1[100];
39     encrypt(plaintext1, key1, ciphertext1);
40     printf("Encrypted (a): %s\n", ciphertext1);
41     char ciphertext2[] = "ljdxyaajysyh";
42     char plaintext2[] = "cashnotneeded";
43     int key2[100];
44     derive_key(plaintext2, ciphertext2, key2);
45     printf("Key for part (b): ");
46     for (int i = 0; i < strlen(plaintext2); i++) {
47         if (key2[i] != -1)
48             printf("%d ", key2[i]);
49         else
```

Output


Clear

```
Encrypted (a): beokjdmsxzpmh
Key for part (b): 9 9 11 16 11 12 16 11 22 5 15 20 4

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```
main.c
37 int key1[] = {9, 0, 1, 7, 23, 15, 21, 14, 11, 11, 2, 8, 9};
38 char ciphertext1[100];
39 encrypt(plaintext1, key1, ciphertext1);
40 printf("Encrypted (a): %s\n", ciphertext1);
41 char ciphertext2[] = "ljdxyaajyaajsyh";
42 char plaintext2[] = "cashnotneeded";
43 int key2[100];
44 derive_key(plaintext2, ciphertext2, key2);
45 printf("Key for part (b): ");
46 for (int i = 0; i < strlen(plaintext2); i++) {
47     if (key2[i] != -1)
48         printf("%d ", key2[i]);
49     else
50         printf(" ");
51 }
52 printf("\n");
53 return 0;
```

Output

Clear

```
Encrypted (a): beokjdmsxzpmh
Key for part (b): 9 9 11 16 11 12 16 11 22 5 15 20 4

=== Code Execution Successful ===
```