

Online C Compiler - Programiz

Upload to GitHub

Upload files - deepapreya-h/CNS

programiz.com/c-programming/online-compiler/

Verify it's you

Learn DSA the way it should be – with step-by-step code visualization. Try now!

Programiz C Online Compiler

Programiz PRO

main.c

Share

Run

```
25 44,49,39,56,34,53,
26 46,42,50,36,29,32
27 };
28 void permute(char* in, char* out, int* table, int n) {
29     for (int i = 0; i < n; i++)
30         out[i] = in[table[i] - 1];
31 }
32 void leftShift(char* half, int shifts) {
33     char temp[2];
34     for (int s = 0; s < shifts; s++) {
35         temp[0] = half[0];
36         temp[1] = half[1];
37         for (int i = 0; i < 26; i++)
38             half[i] = half[i + 2];
39         half[26] = temp[0];
40         half[27] = temp[1];
41     }
42 }
43 int main() {
44     char key64[65], key56[56], C[28], D[28], CD[56], subkey[48];
45     char roundKeys[16][48];
46     printf("Enter 64-bit binary key (no spaces): ");
47     scanf("%64s", key64);
48     permute(key64, key56, DES_TABLE, 64);
49 }
```

Output

Clear

Enter 64-bit binary key (no spaces): 7

DES Subkeys (C-part | D-part):

K01:	.....7.....	|	.....
K02:	.....7.....	|	.....
K03:	.....7.....	|	.....
K04:	.....7.....	|	.....
K05:	.....7.....	|	.....
K06:	.....7.....	|	.....
K07:	.....7.....	|	.....
K08:	.....7.....	|	.....
K09:	.....7.....	|	.....
K10:	.....7.....	|	.....
K11:	.....7.....	|	.....
K12:	.....7.....	|	.....
K13:	.....7.....	|	.....
K14:	7.....	|	.....
K15:	.....7.....	|	.....
K16:	.....7.....	|	.....

=== Code Execution Successful ===

33°C Mostly cloudy

Search

ENG IN

20:11 29.07.2025

Online C Compiler - Programiz

Upload to GitHub

Upload files - deepapreya-h/CNS

programiz.com/c-programming/online-compiler/

☆

Verify it's you

Learn DSA the way it should be – with step-by-step code visualization. Try now!

Programiz C Online Compiler

Programiz PRO

main.c

Share

Run

```
46 printf("Enter 64-bit binary key (no spaces): ");
47 scanf("%64s", key64);
48 permute(key64, key56, PC1, 56);
49 memcpy(C, key56, 28);
50 memcpy(D, key56 + 28, 28);
51 for (int i = 0; i < 16; i++) {
52     leftShift(C, shiftSchedule[i]);
53     leftShift(D, shiftSchedule[i]);
54     memcpy(CD, C, 28);
55     memcpy(CD + 28, D, 28);
56     permute(CD, subkey, PC2, 48);
57     memcpy(roundKeys[i], subkey, 48);
58 }
59 printf("\nDES Subkeys (C-part | D-part):\n");
60 for (int i = 0; i < 16; i++) {
61     printf("K%02d: ", i + 1);
62     for (int j = 0; j < 48; j++) {
63         printf("%c", roundKeys[i][j]);
64         if (j == 23) printf(" | ");
65     }
66     printf("\n");
67 }
68 return 0;
```

Output

Clear

```
Enter 64-bit binary key (no spaces): 7
DES Subkeys (C-part | D-part):
K01: .....7..... | .....
K02: .....7..... | .....
K03: .....7..... | .....
K04: ...7..... | .....
K05: .....7..... | .....
K06: .....7..... | .....
K07: .....7..... | .....
K08: .....7..... | .....
K09: .....7..... | .....
K10: .....7..... | .....
K11: .....7..... | .....
K12: .....7..... | .....
K13: .....7..... | .....
K14: 7..... | .....
K15: .....7..... | .....
K16: .....7..... | .....

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

33°C Mostly cloudy

Search

ENG IN

20:12 29.07.2025

Online C Compiler - Programiz

Upload to GitHub

Upload files - deepapreya-h/CNS

programiz.com/c-programming/online-compiler/

Verify it's you

Learn DSA the way it should be – with step-by-step code visualization. Try now!

Programiz C Online Compiler

Programiz PRO

main.c

Share

Run

```
1 #include <stdio.h>
2 #include <string.h>
3 int shiftSchedule[16] = {
4     1, 1, 2, 2, 2, 2, 2, 2,
5     1, 2, 2, 2, 2, 2, 2, 1
6 };
7 int PC1[56] = {
8     57,49,41,33,25,17,9,
9     1,58,50,42,34,26,18,
10    10,2,59,51,43,35,27,
11    19,11,3,60,52,44,36,
12    63,55,47,39,31,23,15,
13    7,62,54,46,38,30,22,
14    14,6,61,53,45,37,29,
15    21,13,5,28,20,12,4
16 };
17 int PC2[48] = {
18     14,17,11,24,1,5,
19     3,28,15,6,21,10,
20     23,19,12,4,26,8,
21     16,7,27,20,13,2,
22
23     41,52,31,37,47,55,
24     30,40,51,45,33,48,
```

Output

Clear

Enter 64-bit binary key (no spaces): 7

DES Subkeys (C-part | D-part):

K01:	.....7.....	|	.....
K02:	.....7.....	|	.....
K03:	.....7.....	|	.....
K04:	.....7.....	|	.....
K05:	.....7.....	|	.....
K06:	.....7.....	|	.....
K07:	.....7.....	|	.....
K08:	.....7.....	|	.....
K09:	.....7.....	|	.....
K10:	.....7.....	|	.....
K11:	.....7.....	|	.....
K12:	.....7.....	|	.....
K13:	.....7.....	|	.....
K14:	7.....	|	.....
K15:	.....7.....	|	.....
K16:	.....7.....	|	.....

=== Code Execution Successful ===

33°C Mostly cloudy

Search

20:11 29-07-2025