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main.c

Run

Output

Clear

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

#define BLOCK_SIZE 8  // Size of each block (8 bytes for simplicity)

// Simulating a simple XOR encryption (substitute with a real cipher like DES)
void XOR_Block(unsigned char *block, unsigned char *key, unsigned char *output) {
    for (int i = 0; i < BLOCK_SIZE; i++) {
        output[i] = block[i] ^ key[i];
    }
}

// ECB Mode Encryption
void ECB_Encrypt(unsigned char *plaintext, unsigned char *ciphertext, unsigned char
```

```
Plaintext: This is a test msg for ECB mode!
Ciphertext (in hex):
    554B2C14A9C2BECF60033102FADFED8272446501E6D9EDAA4261
    650AE6CFA8CE
Decrypted: This is a test msg for ECB mode!


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

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```
    }
}

// ECB Mode Decryption
void ECB_Decrypt(unsigned char *ciphertext,
    unsigned char *plaintext, unsigned char *key
    , int length) {
    unsigned char block[BLOCK_SIZE];
    for (int i = 0; i < length; i += BLOCK_SIZE)
        {
        memcpy(block, ciphertext + i, BLOCK_SIZE
            ); // Get current block
        XOR_Block(block, key, plaintext + i); //
            Decrypt using XOR
    }
}

int main() {
```

Output

Clear

```
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```
30
31  int main() {
32      unsigned char plaintext[] = "This is a test
            msg for ECB mode!";  // Example message
33      unsigned char key[BLOCK_SIZE] = {0x01, 0x23,
            0x45, 0x67, 0x89, 0xAB, 0xCD, 0xEF};  //
            Example key
34      unsigned char ciphertext[BLOCK_SIZE *
            ((strlen((char *)plaintext) / BLOCK_SIZE
            ) + 1)];
35      unsigned char decrypted[BLOCK_SIZE *
            ((strlen((char *)plaintext) / BLOCK_SIZE
            ) + 1)];
36
37      int data_size = strlen((char *)plaintext);
            // Length of the plaintext message
38
39      // Print plaintext
```

```
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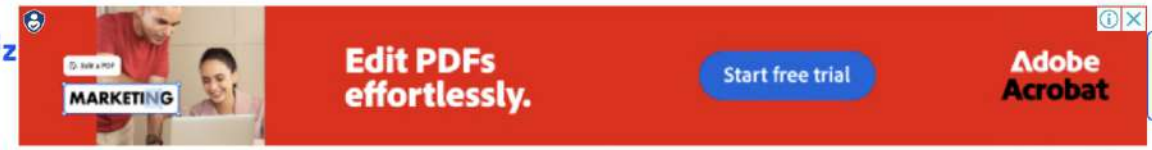

Programiz
PRO ›

main.c

Run

Output

Clear

```
44
45      // Print ciphertext (in hex format)
46      printf("Ciphertext (in hex): ");
47      for (int i = 0; i < data_size; i++) {
48          printf("%02X", ciphertext[i]);
49      }
50      printf("\n");
51
52      // Decrypt the ciphertext
53      ECB_Decrypt(ciphertext, decrypted, key,
            data_size);
54
55      // Print decrypted text
56      printf("Decrypted: %s\n", decrypted);
57
58      return 0;
59  }
60
```

```
Plaintext: This is a test msg for ECB mode!
Ciphertext (in hex):
    554B2C14A9C2BECF60033102FADFED8272446501E6D9EDAA4261
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