Program 33 DES algorithmm for modern application

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <openssl/des.h>

void des\_encrypt(const char \*input, const char \*key) {

DES\_cblock des\_key;

DES\_key\_schedule key\_schedule;

// Set the DES key

strncpy((char \*)des\_key, key, 8);

// Set the encryption key schedule

DES\_set\_key\_checked(&des\_key, &key\_schedule);

// Encrypt the input data

unsigned char input\_block[8];

unsigned char output\_block[8];

strncpy((char \*)input\_block, input, 8);

DES\_encrypt1(input\_block, &key\_schedule, DES\_ENCRYPT);

DES\_encrypt2(input\_block, &key\_schedule, DES\_ENCRYPT);

DES\_encrypt3(input\_block, &key\_schedule, DES\_ENCRYPT);

printf("Encrypted Text: ");

for (int i = 0; i < 8; i++) {

printf("%02X", input\_block[i]);

}

printf("\n");

}

void des\_decrypt(const char \*input, const char \*key) {

DES\_cblock des\_key;

DES\_key\_schedule key\_schedule;

// Set the DES key

strncpy((char \*)des\_key, key, 8);

// Set the decryption key schedule

DES\_set\_key\_checked(&des\_key, &key\_schedule);

// Decrypt the input data

unsigned char input\_block[8];

unsigned char output\_block[8];

strncpy((char \*)input\_block, input, 8);

DES\_encrypt3(input\_block, &key\_schedule, DES\_DECRYPT);

DES\_encrypt2(input\_block, &key\_schedule, DES\_DECRYPT);

DES\_encrypt1(input\_block, &key\_schedule, DES\_DECRYPT);

printf("Decrypted Text: ");

for (int i = 0; i < 8; i++) {

printf("%c", input\_block[i]);

}

printf("\n");

}

int main() {

const char \*message = "HelloDES";

const char \*key = "secret56";

printf("Original Text: %s\n", message);

// Encrypt using DES

des\_encrypt(message, key);

// Decrypt using DES

des\_decrypt("A3F17B0330057D71", key);

return 0;

}

Output:

