#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <time.h>

void dsa\_sign(const char \*message, unsigned char \*signature, size\_t sig\_len) {

srand(time(NULL));

for (size\_t i = 0; i < sig\_len; i++) {

signature[i] = message[i % strlen(message)] ^ (rand() % 256);

}

}

void rsa\_sign(const char \*message, unsigned char \*signature, size\_t sig\_len) {

for (size\_t i = 0; i < sig\_len; i++) {

signature[i] = message[i % strlen(message)] ^ 0xAA;

}

}

int main() {

const char \*message = "This is a test message.";

size\_t message\_len = strlen(message);

size\_t sig\_len = 32;

unsigned char dsa\_sig1[32];

unsigned char dsa\_sig2[32];

unsigned char rsa\_sig1[32];

unsigned char rsa\_sig2[32];

dsa\_sign(message, dsa\_sig1, sig\_len);

dsa\_sign(message, dsa\_sig2, sig\_len);

// Generate RSA signatures

rsa\_sign(message, rsa\_sig1, sig\_len);

rsa\_sign(message, rsa\_sig2, sig\_len);

// Print DSA signatures

printf("DSA Signature 1: ");

for (size\_t i = 0; i < sig\_len; i++) printf("%02x", dsa\_sig1[i]);

printf("\n");

printf("DSA Signature 2: ");

for (size\_t i = 0; i < sig\_len; i++) printf("%02x", dsa\_sig2[i]);

printf("\n");

printf("RSA Signature 1: ");

for (size\_t i = 0; i < sig\_len; i++) printf("%02x", rsa\_sig1[i]);

printf("\n");

printf("RSA Signature 2: ");

for (size\_t i = 0; i < sig\_len; i++) printf("%02x", rsa\_sig2[i]);

printf("\n");

return 0;

}

OUTPUT:

