DIGITAL ASSIGNMENT 2

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3)A digital locker in the bank is protected with a security mechanism. To open the locker a password of 9 characters is required. The input characters should be accepted as 3x3 matrix and two diagonal characters of the matrix are concatenated (refer to the example given below) and compared with the password already stored in a character array for authentication. Write a C program to implement this logic for password verification.

Input to open the device

a b c

d e f

g h i

Concatenation of Diagonal characters:

aeiceg

CODE:

#include <stdio.h>

#define PASSWORD "password"

int main() {

char input[3][3];

char diagonal[5];

int i, j, k = 0;

printf("Enter the input characters as a 3x3 matrix:\n");

for (i = 0; i < 3; i++) {

for (j = 0; j < 3; j++) {

scanf(" %c", &input[i][j]);

}

}

diagonal[k++] = input[0][0];

diagonal[k++] = input[1][1];

diagonal[k++] = input[2][2];

diagonal[k++] = input[0][2];

diagonal[k] = input[2][0];

printf("Concatenation of Diagonal characters: %s\n", diagonal);

if (strcmp(diagonal, PASSWORD) == 0) {

printf("Password matched. Locker opened.\n");

} else {

printf("Incorrect password. Access denied.\n");

}

return 0;

}