

traceMatrix.c

```
1 // Write a function that computes the trace of a square matrix.
2 #include <stdio.h>
3
4 int main(){
5     int n, i, j;
6     printf("Enter the number of rows/columns: ");
7     scanf("%d", &n);
8
9     int matrix[n][n];
10    printf("Enter the elements of the matrix:\n");
11    for(i = 0; i < n; i++){
12        for(j = 0; j < n; j++){
13            printf("Element [%d][%d]: ", i, j);
14            scanf("%d", &matrix[i][j]);
15        }
16    }
17
18    int trace = 0;
19    for(i = 0; i < n; i++){
20        trace += matrix[i][i];
21    }
22
23    printf("The trace of the matrix is: %d\n", trace);
24    return 0;
25}
26
27 /**
28 * Example Input/Output:
29 * Enter the number of rows/columns: 3
30 * Enter the elements of the matrix:
31 * Element [0][0]: 1
32 * Element [0][1]: 2
33 * Element [0][2]: 3
34 * Element [1][0]: 4
35 * Element [1][1]: 5
36 * Element [1][2]: 6
37 * Element [2][0]: 7
38 * Element [2][1]: 8
39 * Element [2][2]: 9
40 * The trace of the matrix is: 15
41 */
42
```