main.c

Share Run

```c
//DAY 40
//Q79
#include <stdio.h>
int main() {
    int n, i, j;
    printf("Enter the size of the square matrix: ");
    scanf("%d", &n);

    int matrix[n][n];

    printf("Enter elements of the matrix:\n");
    for (i = 0; i < n; i++) {
        for (j = 0; j < n; j++) {
            printf("Element [%d][%d]: ", i, j);
            scanf("%d", &matrix[i][j]);
        }
    }
    printf("\nThe entered matrix is:\n");
    for (i = 0; i < n; i++) {
        for (j = 0; j < n; j++) {
            printf("%d\t", matrix[i][j]);
        }
        printf("\n");
    }
    printf("\nDiagonal traversal of the matrix:\n");
    for (i = 0; i < n; i++) {
        for (j = 0; j < n; j++) {
            if (i == j) {  // Main diagonal condition
                printf("%d ", matrix[i][j]);
            }
        }
    }
    printf("\n");
    return 0;
```

Output

```
Enter the size of the square matrix: 2
Enter elements of the matrix:
Element [0][0]: 2
Element [0][1]: 4
Element [1][0]: 3
Element [1][1]: 36

The entered matrix is:
2   4
3   36

Diagonal traversal of the matrix:
2 36


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

main.c

Share Run

```c
//DAY 40
//Q80
#include <stdio.h>
int main() {
    int a[10][10], b[10][10], c[10][10];
    int r1, c1, r2, c2;
    int i, j, k;
    printf("Enter rows and columns for first matrix: ");
    scanf("%d %d", &r1, &c1);
    printf("Enter rows and columns for second matrix: ");
    scanf("%d %d", &r2, &c2);
    if (c1 != r2) {
        printf("Matrix multiplication not possible.\n");
        return 0;
    }
    printf("Enter elements of first matrix:\n");
    for (i = 0; i < r1; i++) {
        for (j = 0; j < c1; j++) {
            scanf("%d", &a[i][j]);
        }
    }
    printf("Enter elements of second matrix:\n");
    for (i = 0; i < r2; i++) {
        for (j = 0; j < c2; j++) {
            scanf("%d", &b[i][j]);
        }
    }
    for (i = 0; i < r1; i++) {
        for (j = 0; j < c2; j++) {
            c[i][j] = 0;
        }
    }
    for (i = 0; i < r1; i++) {
        for (j = 0; j < c2; j++) {
            for (k = 0; k < c1; k++) {
                c[i][j] += a[i][k] * b[k][j];
            }
        }
    }
    printf("Resultant matrix after multiplication:\n");
    for (i = 0; i < r1; i++) {
        for (j = 0; j < c2; j++) {
```

Output

```
Enter rows and columns for first matrix: 1 2
Enter rows and columns for second matrix: 2 1
Enter elements of first matrix:
1 2
Enter elements of second matrix:
3 4
Resultant matrix after multiplication:
11


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