Write a C program to initialize a 3x3 array, insert elements into the array, read and print an array of elements using only pointers. Also find and print the sum of all diagonal elements.

Your input and Output should look similar to this

Input elements in the matrix : element - [0],[0] : 1 element - [0],[1] : 2 element - [0],[2] : 3 element - [1],[0] : 4 element - [1],[1] : 5 element - [1],[2] : 6 element - [2],[0] : 7 element - [2],[1] : 8 element - [2],[2] : 9 The matrix is : 1 2 3 4 5 6 7 8 9

PROGRAM:

```c
/*****************************************************************************/
#include<stdio.h>

int main()
{
    int i, j, rows, columns, a[10][10], Sum = 0;

    printf("\n Please Enter Number of rows and columns  :  ");
    scanf("%d %d", &i, &j);

    printf("\n Please Enter the Matrix Elements \n");
    for(rows = 0; rows < i; rows++)
    {
        for(columns = 0;columns < j;columns++)
        {
            scanf("%d", &a[rows][columns]);
        }
    }

    for(rows = 0; rows < i; rows++)
    {
        Sum = Sum + a[rows][rows];
    }

    printf("\n The Sum of Diagonal Elements of a Matrix =  %d", Sum );

    return 0;
}
```

OUTPUT:

```
 Please Enter Number of rows and columns  :  3 3

 Please Enter the Matrix Elements
1 2 3
4 5 6
7 8 9

 The Sum of Diagonal Elements of a Matrix =  15

...Program finished with exit code 0
Press ENTER to exit console.
```