```c
#include<stdio.h>
void main()
{
    int mat[12][12];
    int i,j,row,col,sum=0;
    printf("enter the number of rows and colums of matrix\n");
    scanf("%d%d",&row,&col);
    printf("enter the elements of the matrix\n");
    for(i=0;i<row;i++)
    {
        for(j=0;j<col;j++)
            scanf("%d",&mat[i][j]);
    }
    printf("the matrix\n");
    for(i=0;i<row;i++)
{
    for(j=0;j<col;j++)
        printf("%d\t",mat[i][j]);
    printf("\n");
}
for(i=0;i<row;i++)
{
    for(j=0;j<col;j++)
    {
        if(i==j)
            sum = sum + mat[i][j];
    }
}
printf("the sum of diagonal elements of square matrix is = %d"
}
```

```
enter the number of rows and colums of matrix
  3
  3
enter the elements of the matrix
  1
  2
  3
  4
  5
  6
  7
  8
  9
the matrix
1       2       3
4       5       6
7       8       9
the sum of diagonal elements of square matrix is = 15
--------------------------------
```