```c
/*****************************************************************************
*  FILE: fileIO.c
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*  UNIT: OS200 Assignment S1 - 2016
*  PURPOSE: Perform reading of matrix elements from a file
*  LAST MOD: 07/05/16
*  REQUIRES: fileIO.h
*****************************************************************************/

#include "fileIO.h"

//----------------------------------------------------------------------------
// FUNCTION: readFile()
// IMPORT: filename (char*), matrix (int*), rows (int), cols (int)
// EXPORT: status (int)
// PURPOSE: Read matrix from file and store its elements in an int array

int readFile( char* filename, int* matrix, int rows, int cols)
{
    int nRead;
    int offset = 0;

    // OPEN FILE AND CONFIRM NO ERRORS OCCURRED
    FILE* f = fopen( filename, "r" );
    if ( f == NULL )
    {
        perror( "ERROR - opening file!\n" );
        return -1;
    }

    // ITERATE TO FILL ALL MATRIX ROWS
    for ( int ii = 0; ii < rows; ii++ )
    {
        // ITERATE TO FILL ALL MATRIX COLS
        offset = ii * cols;
        for ( int jj = 0; jj < cols; jj++ )
        {
            nRead = fscanf( f, "%d", ( &matrix[offset + jj] ) );
            if ( nRead < 0 )
            {
                // CHECK THAT ENOUGH VALUES HAVE BEEN READ
                if ( (offset + jj) < (rows * cols - 1) )
                {
                    fprintf( stderr, "ERROR - not enough matrix values\n" );
                    return -1;
                }
                // CHECK THAT NO ERROR FORCED EARLY EXIT
                else if ( ferror(f) )
                {
                    perror("ERROR - reading matrix file!\n");
                    return -1;
                }
            }
        }
    }

    fclose(f);
    return 0;
}
//----------------------------------------------------------------------------

```