Write a user-defined MATLAB function **[x LT] = LowTri(a, b)** for solving a system of linear equations, [a][x]=[b], by manipulating the matrix into **lower-triangular** form. The output argument *x* is the solution column vector and *LT* is the matrix [a] to be manipulated in the lower triangular form. Use this to solve:

$$x_1 + 3x_2 + 2x_3 + 4x_4 = 9$$
$$2x_1 - x_2 + x_3 - 2x_4 = -7$$
$$2x_1 + x_2 - 4x_3 - x_4 = 18$$
$$2x_1 + 4x_2 + x_3 - 2x_4 = -2$$

Show your lower-triangular form of the matrix [a] and obtain the solution column vector [x]