**CHAPTER 3**

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| **Objective :** | Create a symmetric matrix: Create an upper triangular matrix with the following command:  A = diag(1:6) + diag(7:11,1) + diag(12:15,2).  Make sure you understand how this command works (see the on-line help on diag if required). Now use the upper oﬀ-diagonal terms of A to make A a symmetric matrix with the following command:  A=A+triu(A,1)’.  This is a somewhat loaded command. It takes the upper triangular part of A above the main diagonal, ﬂips it (transposes), and adds to the original matrix A, thus creating a symmetric matrix A. |
| **MATLAB**  **Code:** | A = diag(1:6) + diag(7:11,1) + diag(12:15,2)  A=A+triu(A,1) |
| **Output:** | A =  1 7 12 0 0 0  0 2 8 13 0 0  0 0 3 9 14 0  0 0 0 4 10 15  0 0 0 0 5 11  0 0 0 0 0 6  A =  1 14 24 0 0 0  0 2 16 26 0 0  0 0 3 18 28 0  0 0 0 4 20 30  0 0 0 0 5 22  0 0 0 0 0 6 |