**CHAPTER 3**

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| **Objective :** | Create a big matrix with submatrices: The following matrix G is created by putting matrices A, B, and C given above, on its diagonal. In how many ways can you create this matrix using submatrices A, B, and C (that is, you are not allowed to enter the non-zero numbers explicitly)? |
| **MATLAB**  **Code:** | A = [2 6 ;3 9];  B = [1 2;3 4];  C = [-5 5;5 3];    G = [A zeros(2,2) zeros(2,2) ;zeros(2,2) B zeros(2,2) ;zeros(2,2) zeros(2,2) C]  G(6,:)= []  G(:,6)= [] |
| **Output:** | G =  2 6 0 0 0 0  3 9 0 0 0 0  0 0 1 2 0 0  0 0 3 4 0 0  0 0 0 0 -5 5  0 0 0 0 5 3  G =  2 6 0 0 0 0  3 9 0 0 0 0  0 0 1 2 0 0  0 0 3 4 0 0  0 0 0 0 -5 5  G =  2 6 0 0 0  3 9 0 0 0  0 0 1 2 0  0 0 3 4 0  0 0 0 0 -5 |