Ali Prasla

Homework 1

Fin 372

1. View R code
2. View R code
3. View R code
4. AB =[[(3 * 3 + -1 * 7 + 2*-1) , (3 * -6 + -1 * -14 + 2 * 2) , (3 * -3 + -1 * - 7+ 2 * 1)],[(1*3 + 0 * 7 + 3* -1), (1 * -6 + 0 * -14 + 3 * 2),(1 * -3 + 0 * 7 + 1 * 3)], [(3 * 3 + -2 *-7 + -5 * -1),((3 * - 6+ -2 * -14 + -5 * 2), (3* -3 + -2 * -7 + -5 * 1)]
    a. AB = [[0,0,0],[0,0,0],[0,0,0]]
    b. AB = 0
5. BA = [[(3 *3 + -6 * 1 + -3 * 3),(-1 * 3 + 0 * - 6 + 2 * -3),(2 * 3 + 3 * -6 + -5 * -3)],[(7*3 + 1*-14 + -7*3),(7*-1 + 0*14 + 3*-2),(7*2 + -14* 3 + -7*-5)],[(-1*3 + 2* 1 + 1* 3), (-1*-1 + 2* 0 + 1* -2), (-1*2 + 2* 3 + 1* -5)]
    a. BA = [[-6,3,3],[-14,7,7],[2,-1,-1],[2,-1,-1]]
    b. BA != AB
    c. R confirms
6. Objective –
    a. Choose F S P H
    b. Constraints –
        i. F + S + H + P = 250 Mil
        ii. .45F - .55S = 0
        iii. .25F -.75S + .25H + .25P = 0
        iv. -.1F + .05S + .05H - .05P = 0
    c. Used matrix to solve for the values of F, S , H, P
        i. First Mortgage = $76,388,889
        ii. Second Mortgage = $62,500,000
        iii. Home Improvement = $100,694,444
        iv. Personal Overdraft = $10,416,667