1. A[][] =

4.000000 1.000000 1.00000

0.000000 3.750000 1.750000

0.000000 0.000000 2.9333333

b[]= {1.000000, -1.000000, 1.000000}

1. L[][]=

1.000000 0.000000 0.000000

0.250000 1.000000 0.000000

0.250000 0.466667 1.000000

U[][]=

4.000000 1.000000 1.000000

0.000000 3.750000 1.750000

0.000000 0.000000 2.933333

1. Household reflection vector, v[]={8.242641 1.000000 1.00000}

A[][] = -4.242641 -2.357023 -2.357023

0.000000 3.592725 1.592725

0.000000 1.592725 3.592725

B[] = {-4.24261, -2.000000, 2.000000}

Householder reflection vector, v[]= {0.000000 7.522667 1.592725}

A[][]= -4.242641 -2.357023 -2.357023

0.000000 -3.929942 -2.912115

0.000000 0.000000 2.638945

B[] = {-4.242641, 1.017827, 2.638945}

1. SOR method, w= 1.0 and X(0)= {0.0 0.0 0.0}.

X(1) = {1.0, -0.50, , 0.75}, X(2) = {0.937500, -0.859375, 0.945313}

1. K = 0, CG method, X(0)= {0.0 0.0 0.0}.

d[] = {4.0, ..-1.0, 3.0}, g[] = {-4.0, 1.0, -3.0}

K=1, X(1) = {0.962963, -0.240741, 0.722222}

Alpha = 0.250741, beta = 0.239369

d[] = {0.624143, -2.683813, 0.239369}

g[] = {0.333333, 2.444444, 0.370370}

K=2, X(2) = {1.123448, -0.930827, 0.81163}

Alpha = 0.257129, beta = 0.061477

d[] = { -0.336231, -0.188405, 0.513041}

g[] = {0.374601, 0.023413, -0.491664}.

1. K= 0, y[] = {1.0, 0.0, 0.0}, x[] = {4.0, 1.0, 1.0}, λ = 4.0.

K = 1, y[] = {0.942809, 0.235702, 0.235702},

x[] = {4.242641, 2.357023, 2.357023}, λ = 5.1111111

K = 2, y[0.786334, 0.436852, 0.436852]

x[] = {4.019039, 3.407446, 3.40776}, λ = 6.137405.

1. K = 0,

A[] = 4.0000000 1.0000000 1.0000000

1.0000000 4.0000000 2.000000

1.0000000 2.0000000 4.000000

K = 1,

A[] = 4.0000000 1.41421356 0.0000000

1.41421356 6.0000000 0.000000

0.0000000 0.0000000 2.000000

K = 2,

A[] = 3.26794919 0.00000000 0.0000000

0.00000000 6.73205081 0.000000

0.0000000 0.0000000 2.000000

P[] =

0.888074 0.459701 0.000000

-0.325058 0.627963 -0.707107

-0.325058 0.627963 0.707107