```
● (base) zahid@zahid lab15 % ./main.exe
  Input N: 7

 Original Matrix:

 A =
 |  7.589e-01,  4.533e-01,  4.136e-01,  2.340e-01,  3.834e-01,  6.375e-01,  1.550e-02 |
 |  4.533e-01,  2.910e-01,  9.952e-01,  2.397e-01,  2.847e-01,  4.509e-01,  9.427e-01 |
 |  4.136e-01,  9.952e-01,  2.782e-01,  7.852e-01,  2.979e-01,  2.019e-01,  6.400e-03 |
 |  2.340e-01,  2.397e-01,  7.852e-01,  4.912e-01,  9.833e-01,  6.800e-03,  7.154e-01 |
 |  3.834e-01,  2.847e-01,  2.979e-01,  9.833e-01,  9.499e-01,  5.865e-01,  3.659e-01 |
 |  6.375e-01,  4.509e-01,  2.019e-01,  6.800e-03,  5.865e-01,  3.315e-01,  5.970e-02 |
 |  1.550e-02,  9.427e-01,  6.400e-03,  7.154e-01,  3.659e-01,  5.970e-02,  4.559e-01 |

 Reduction to Tridiagonal Form:

 T =
 |   7.589000e-01, -9.924434e-01,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |  -9.924434e-01,  2.065574e+00,  1.164004e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  1.164004e+00,  1.235999e+00,  4.819023e-01,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  4.819023e-01, -8.717394e-01, -3.928073e-01,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00, -3.928073e-01, -7.449733e-01,  2.583310e-01,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  2.583310e-01,  4.453108e-01,  2.327002e-01 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  2.327002e-01,  6.675285e-01 |

Rayleigh quotient's eigenvalue: -0.027773
After QR Algorithm:

 T =
 |   3.186922e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00, -1.289840e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  1.052566e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00,  8.276705e-01,  0.000000e+00,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00, -5.386679e-01,  0.000000e+00,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  3.457221e-01,  0.000000e+00 |
 |   0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00,  0.000000e+00, -2.777258e-02 |

○ (base) zahid@zahid lab15 %
```