Part 2)

1. In our code, we invert the matrix before we call trace. The trace of the inverted matrix equates to the trace of the initial matrix divided by the determinant of the initial matrix. Since the trace of a square matrix is the same as the sum of the eigenvalues, and the determinant is the product of the eigenvalues, then the trace of the inverted matrix is equal to the sum of the eigenvalues divided by the product of the eigenvalues. The graph has the pattern it does because we are graphing the trace of the matrix. The darker the dots, the more iterations it has gone through. Since the eigenvalues converge after each iteration, the darker dots will converge to a single point on the graph. This point is the point of convergence using the power method. This convergence will converge in an quadratic pattern as you can see in the following graphs:

