Numerical optimization with Python – programming assignment 2

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Function 1 - qp:

Point of convergence: [4.99860398e-01, 4.99860398e-01, 2.79203060e-04]

Objective value at point of convergence: 1.5002793199919378

-x value at point of convergence: -0.4998603984697939, constraint holds

-y value at point of convergence: -0.4998603984697939, constraint holds

-z value at point of convergence: -0.0002792030604133267, constraint holds

x + y + z value at point of convergence: 1.000000000000001, constraint holds Chart

Description automatically generated

Chart, radar chart

Description automatically generated

Chart, line chart

Description automatically generated

Function 2 – lp:

Point of convergence: [1.99996923, 0.9999394]

Objective value at point of convergence: -2.9999086233866827 (minimized over -x-y)

-y - x + 1 value at point of convergence: -1.9999086233866827, constraint holds

y - 1 value at point of convergence: -6.06039866168917e-05, constraint holds

x - 2 value at point of convergence: -3.077262670037051e-05, constraint holds

-y value at point of convergence: -0.9999393960133831, constraint holds

Chart

Description automatically generated

Chart

Description automatically generated