Programming Assignment 02

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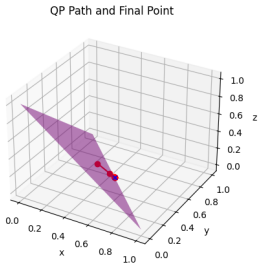
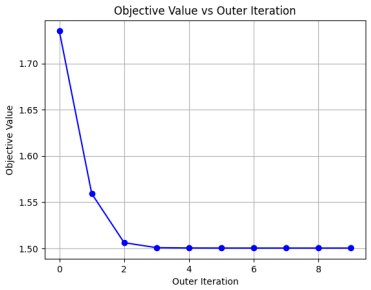
1 Quadratic Problem

$min\ x^2 + y^2 + (z+1)^2$

Subject to: $x + y + z = 1$

$x, y, z \geq 0$





Description	**Value**
Point of convergence	[0.4838708, 0.51612897, 1.2377965060183868e-07]
Equality constraint	$x + y + z = 1.0$
Objective value at point of convergence	1.500520415529246
Value of x	$-x = -0.4838708998627722 \leq 0$
Value of y	$-y = -0.5161289763575773 \leq 0$
Value of z	$-z = -1.2377965060183868e - 07 \leq 0$
Inequality & equality constraints satisfied	True

Table 1: Summary of optimization results

2 Linear Problem

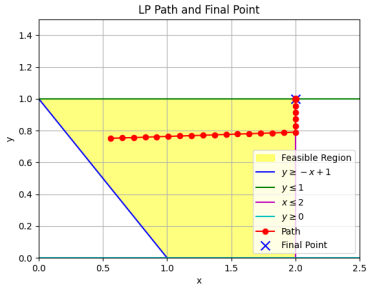
$max\ [x + y]$

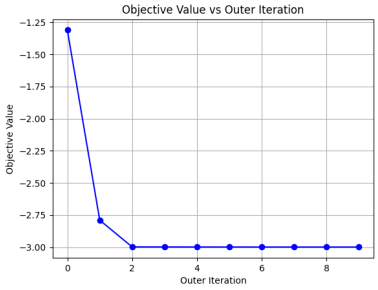
Subject to: $y \geq -x + 1$

$y \leq 1$

$x \leq 2$

$y \geq 0$





Description	**Value**
Point of convergence	[1.999768866696, 0.9992782897502]
Objective value at point of convergence	-2.9990471564463785
Constraint 1 value at point of convergence	1.9990471564463785
Constraint 2 value at point of convergence	0.0007217102497181216
Constraint 3 value at point of convergence	0.00023113330390311937
Constraint 4 value at point of convergence	0.9992782897502819
Inequality constraints satisfied	True

Table 2: Summary of optimization results