

GUROBI

OPTIMIZATION


[Free Trial](#)

Gurobi Optimizer – Get the Software

Get the software

Gurobi Optimizer is the Gurobi optimization libraries. In addition to the software, the corresponding README file contains installation instructions. [Here is the list of bug fixes for each release.](#)

Current version		64-bit Windows	64-bit Linux	64-bit macOS	64-bit AIX
9.0.0	README	Gurobi-9.0.0-win64.msi	gurobi9.0.0_linux64.tar.gz	gurobi9.0.0_mac64.pkg	gurobi9.0.0_power64.tar.gz
md5 Checksum		17ccf7f0e1804f0a7bd5c5e70903c0b3	7878cc518522762d57ed160b3b29287a	7ff74c8f8c7265ff24c3f9c219c596e2	3a943980d36828fc8a7daa7a1b78cf28
Old versions					
8.1.1	README	Gurobi-8.1.1-win64.msi	gurobi8.1.1_linux64.tar.gz	gurobi8.1.1_mac64.pkg	gurobi8.1.1_power64.tar.gz
md5 Checksum		17dfc21f0ed64daaa4bdf7634eab705b	05cbb96072e393bd4ebb1d8b9526ce01	d05a73c0df6622851b4371dc1d292579	3d1a756695d52065eeefc15516d9aac6
8.0.1	README	Gurobi-8.0.1-win64.msi	gurobi8.0.1_linux64.tar.gz	gurobi8.0.1_mac64.pkg	gurobi8.0.1_power64.tar.gz
md5 Checksum		d9363f13daa63b79c0cdaa37ad92e8b6	cfc595ddf9482734bdc0268749093cc4	a02d04ef884e64e7091ef7a7439cfe68	877f94a02e602346ee767b9894df4030

License Detail

License ID 106290

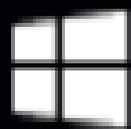
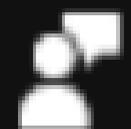
Information and installation instructions

License ID	106290
Date Issued	2015-10-28
Purpose	Trial
License Type	Free Trial
Key Type	TRIAL
Version	6
Distributed Limit	0
Expiration Date	2016-04-25
Host Name	
Host ID	

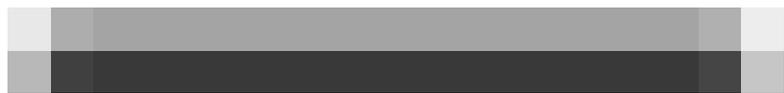
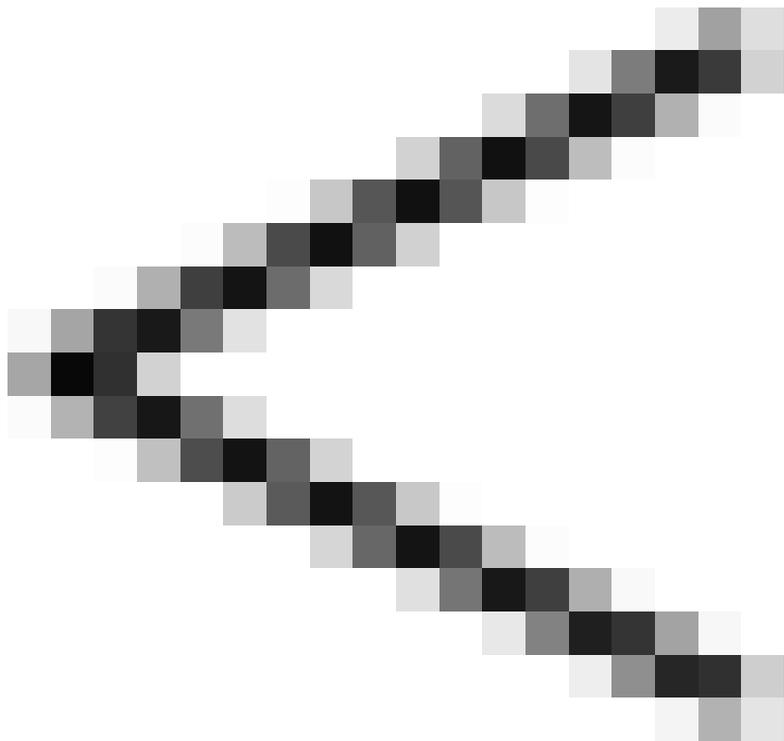
To install this license on a computer where Gurobi Optimizer is installed, copy and paste the following command to the Start/Run menu (Windows only) or a command/terminal prompt (any system):

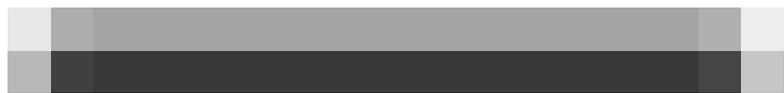
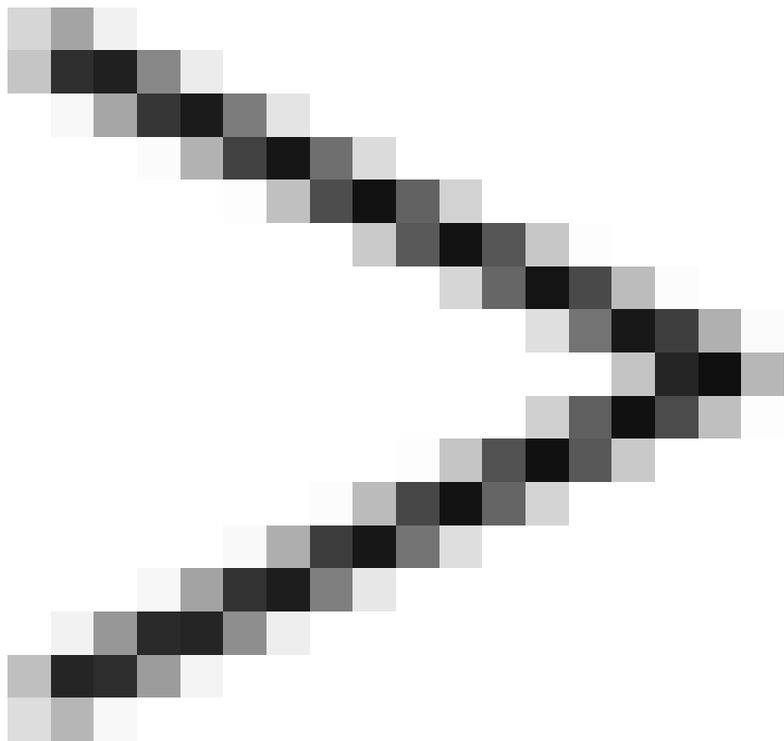
```
grbgetkey 9f712a83-32db-0e10-8285-5630dfa56756
```

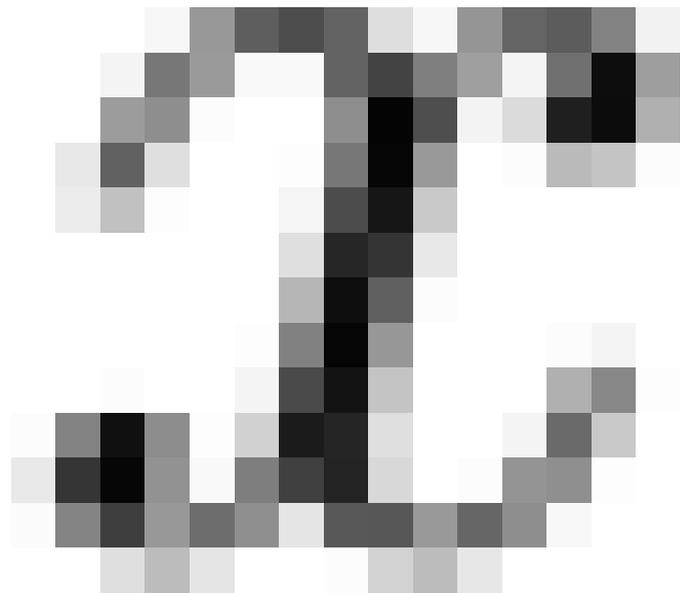
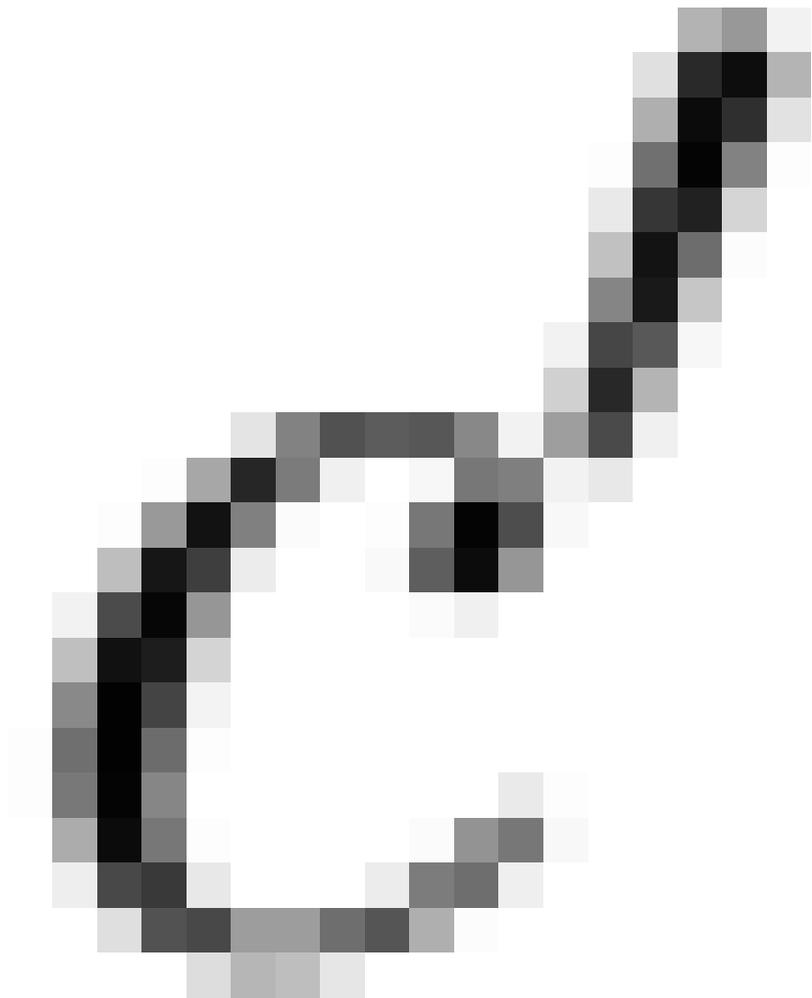
The `grbgetkey` command requires an active internet connection. If you get no response or an error message such as "Unable to contact key server", please [click here for additional instructions](#).

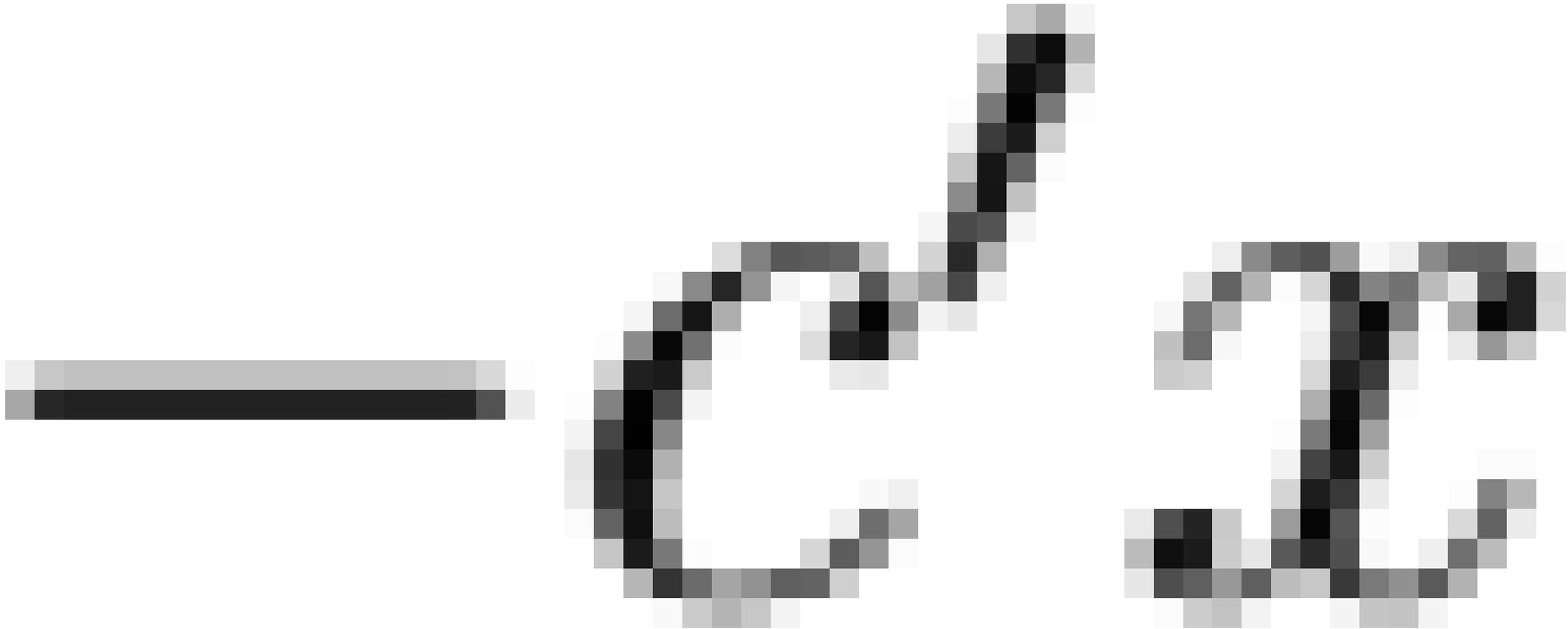


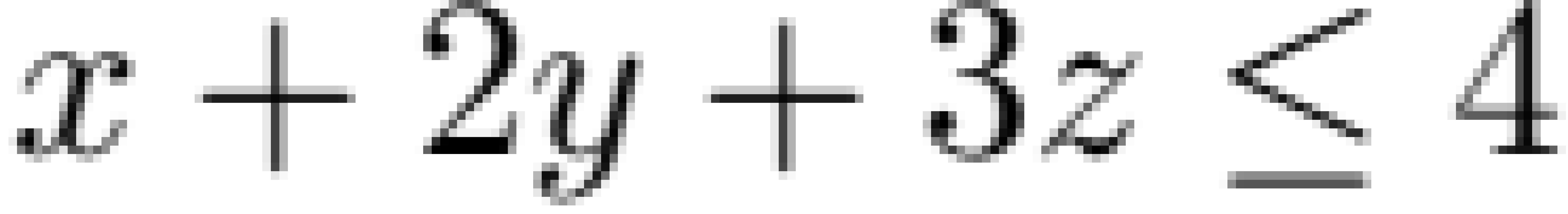
grbgetkey bba60259-a126-e14f-
dab2-580a56ac4d2e|

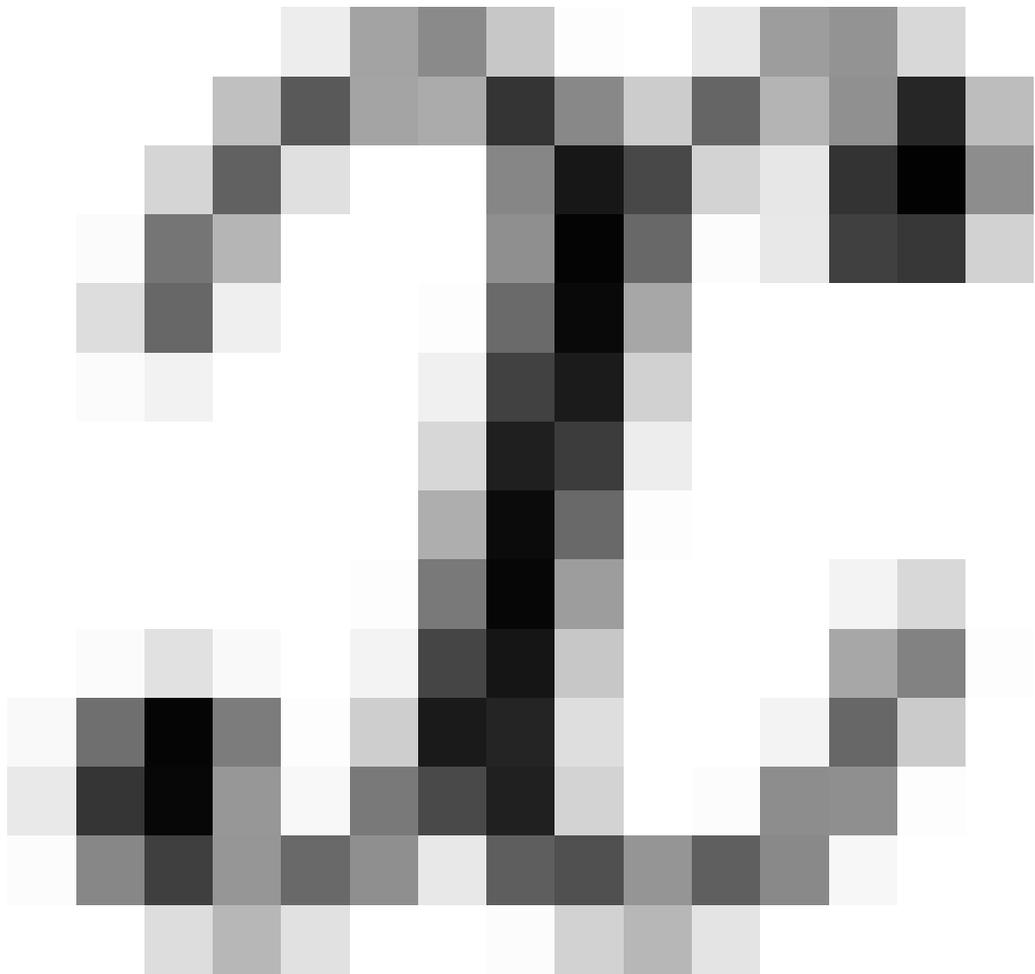


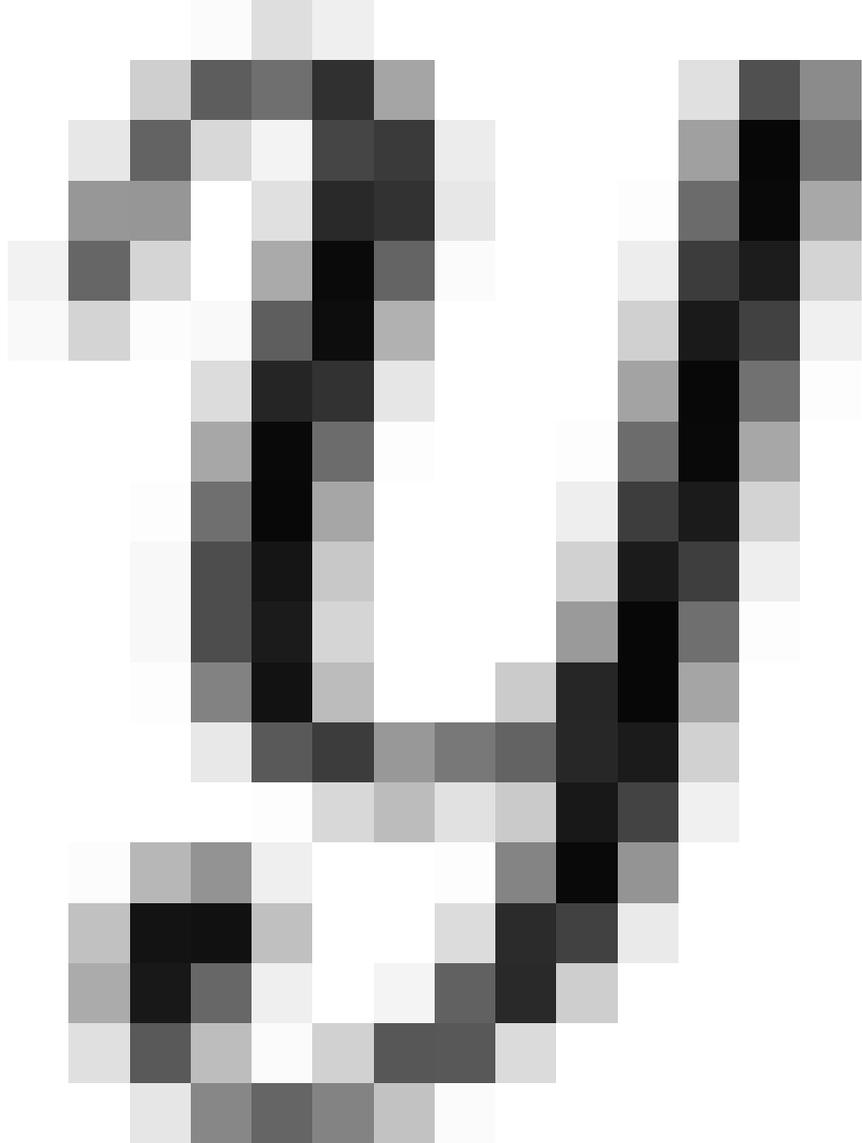


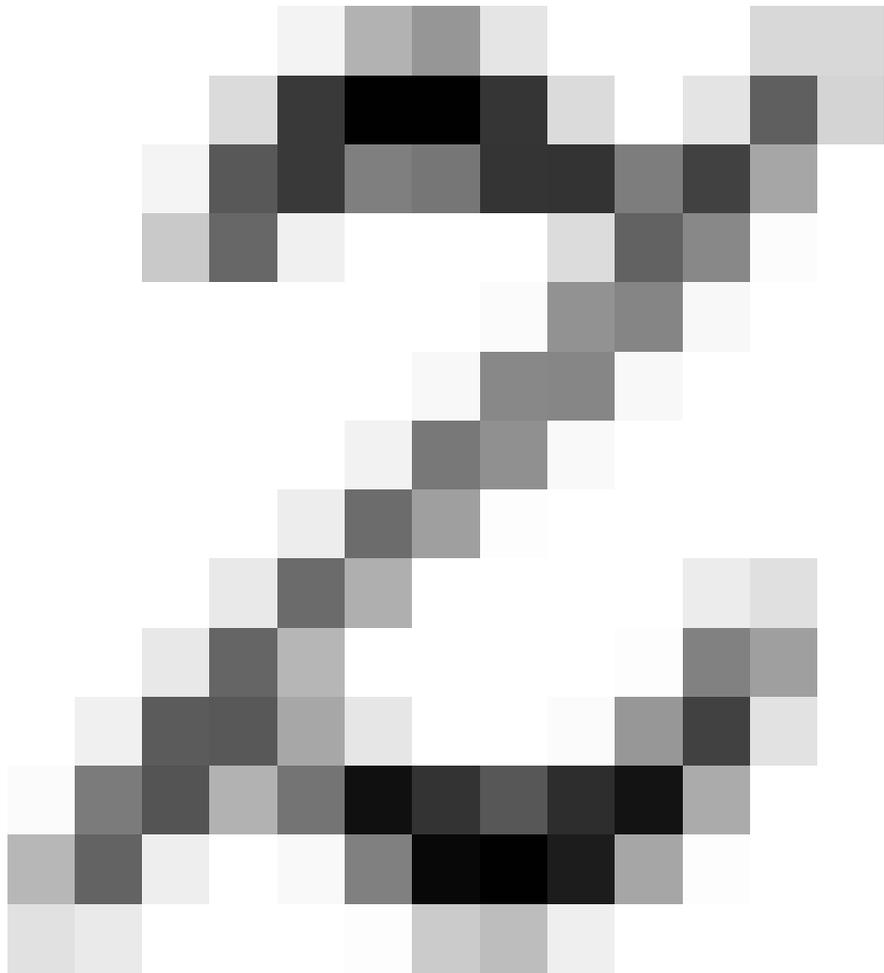


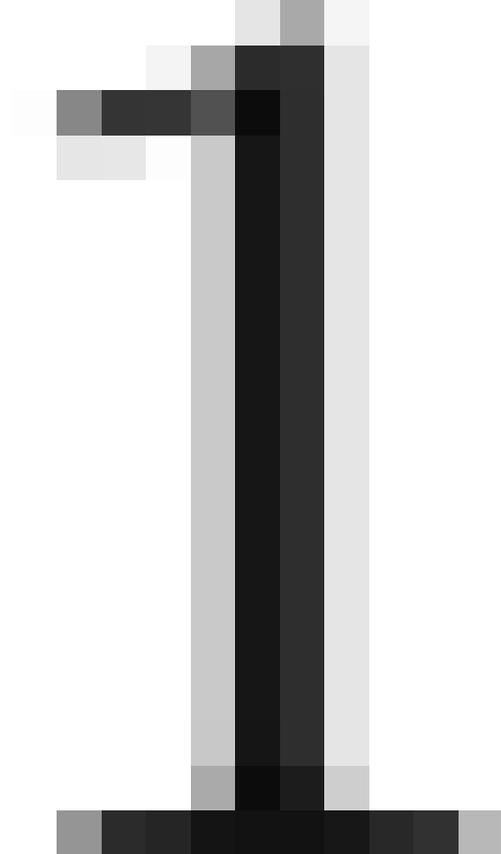
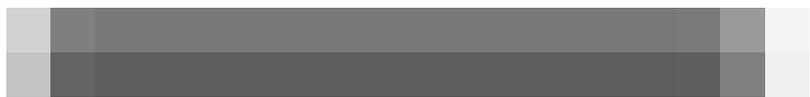












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Editor - /home/daespin... IPython console

temp.py* ×

Console 1/A ×

```

1#!/usr/bin/env python
2# -*- coding: utf-8
3"""
4Spyder Editor
5
6This is a temporary
7"""
8
9

```

In [1]: from gurobipy import *

In [2]: m = read('/opt/gurobi900/linux64/examples/data/p0033.mps')

Using license file /opt/gurobi900/gurobi.lic

Read MPS format model from file /opt/gurobi900/linux64/examples/data/p0033.mps

Reading time = 0.01 seconds

P0033: 16 rows, 33 columns, 98 nonzeros

In [3]: m.optimize()

Gurobi Optimizer version 9.0.0 build v9.0.0rc0 (linux64)

Optimize a model with 16 rows, 33 columns and 98 nonzeros

Model fingerprint: 0x0adb1647

Variable types: 0 continuous, 33 integer (0 binary)

Coefficient statistics:

Matrix range [1e+00, 4e+02]

Objective range [5e+01, 5e+02]

Bounds range [1e+00, 1e+00]

RHS range [1e+00, 3e+03]

Found heuristic solution: objective 3828.0000000

Presolve removed 5 rows and 14 columns

Presolve time: 0.00s

Presolved: 11 rows, 19 columns, 71 nonzeros

Found heuristic solution: objective 3089.0000000

Variable types: 0 continuous, 19 integer (16 binary)

Root relaxation: objective 2.839492e+03, 10 iterations, 0.00 seconds

Nodes		Current Node			Objective Bounds			Work	
Expl	Unexpl	Obj	Depth	IntInf	Incumbent	BestBd	Gap	It/Node	Time
0	0	2839.49184	0	3	3089.00000	2839.49184	8.08%	-	0s
0	0	2941.40000	0	1	3089.00000	2941.40000	4.78%	-	0s
0	0	2952.00000	0	1	3089.00000	2952.00000	4.44%	-	0s
0	0	3045.27500	0	5	3089.00000	3045.27500	1.42%	-	0s
0	0	3089.00000	0	7	3089.00000	3089.00000	0.00%	-	0s

Cutting planes:

Gomory: 3

MIR: 1

Explored 1 nodes (24 simplex iterations) in 0.04 seconds

IPython console

History log

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examples/python

Editor - /opt/gurobi900/linux64/examples/python/mip1.py

IPython console

(mip1.py) x

Console 1/A x

```

1 #!/usr/bin/env python3.7
2
3 # Copyright 2019, Gurobi Optimization, LLC
4
5 # This example formulates and solves the following simple MIP model
6 # maximize
7 #     x + y + 2 z
8 # subject to
9 #     x + 2 y + 3 z <= 4
10 #     x + y >= 1
11 #     x, y, z binary
12
13 import gurobipy as gp
14 from gurobipy import GRB
15
16 try:
17
18     # Create a new model
19     m = gp.Model("mip1")
20
21     # Create variables
22     x = m.addVar(vtype=GRB.BINARY, name="x")
23     y = m.addVar(vtype=GRB.BINARY, name="y")
24     z = m.addVar(vtype=GRB.BINARY, name="z")
25
26     # Set objective
27     m.setObjective(x + y + 2 * z, GRB.MAXIMIZE)
28
29     # Add constraint: x + 2 y + 3 z <= 4
30     m.addConstr(x + 2 * y + 3 * z <= 4, "c0")
31
32     # Add constraint: x + y >= 1
33     m.addConstr(x + y >= 1, "c1")
34
35     # Optimize model
36     m.optimize()
37
38     for v in m.netVars():

```

```

In [4]: runfile('/opt/gurobi900/linux64/examples/python/mip1.py',
wdir='/opt/gurobi900/linux64/examples/python')
Gurobi Optimizer version 9.0.0 build v9.0.0rc0 (linux64)
Optimize a model with 2 rows, 3 columns and 5 nonzeros
Model fingerprint: 0xb2adf8c4
Variable types: 0 continuous, 3 integer (3 binary)
Coefficient statistics:
  Matrix range [1e+00, 3e+00]
  Objective range [1e+00, 2e+00]
  Bounds range [1e+00, 1e+00]
  RHS range [1e+00, 4e+00]
Found heuristic solution: objective 2.0000000
Presolve removed 2 rows and 3 columns
Presolve time: 0.00s
Presolve: All rows and columns removed

Explored 0 nodes (0 simplex iterations) in 0.02 seconds
Thread count was 1 (of 4 available processors)

Solution count 2: 3

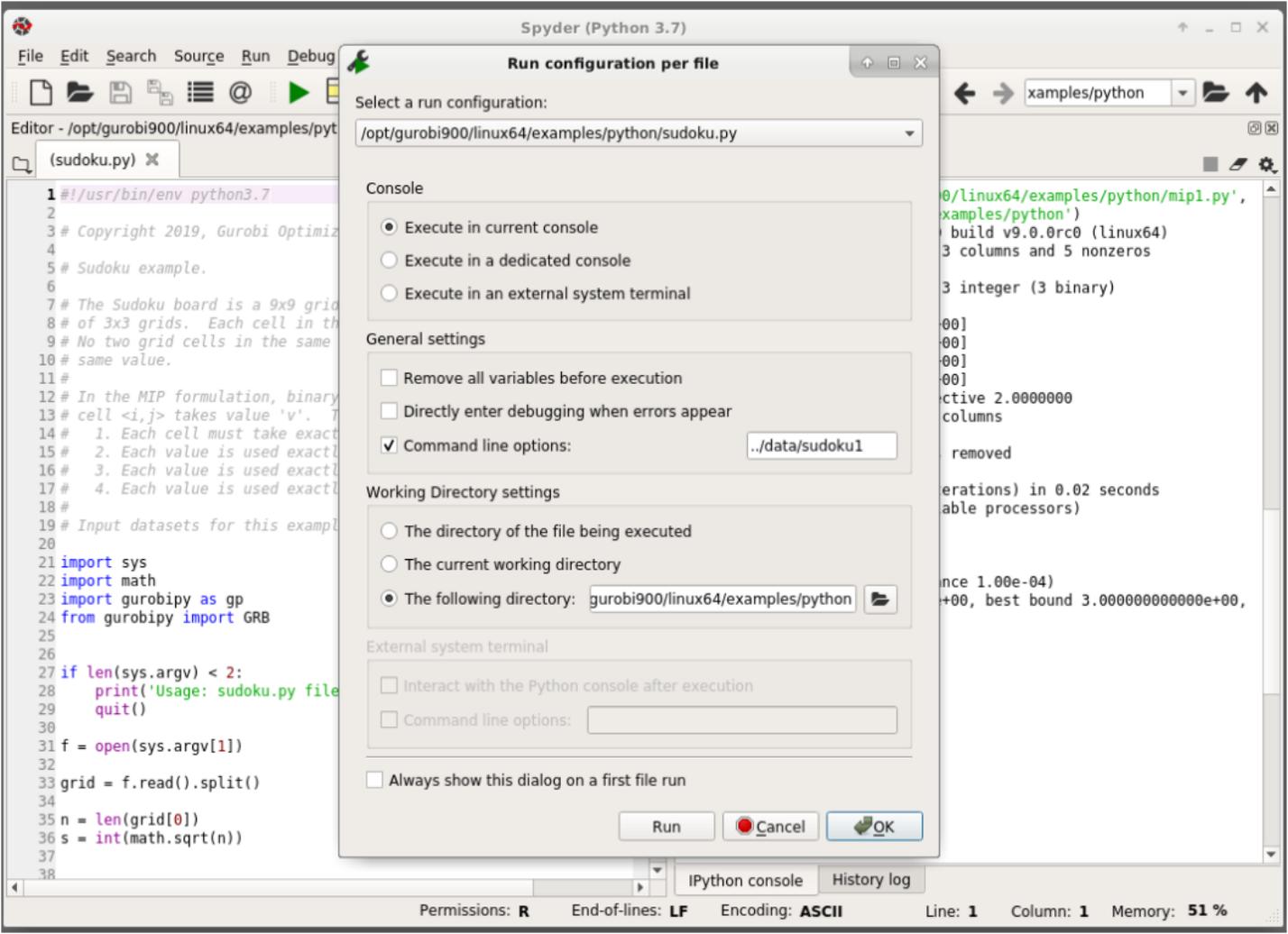
Optimal solution found (tolerance 1.00e-04)
Best objective 3.000000000000e+00, best bound 3.000000000000e+00,
gap 0.00000%
x 1
y 0
z 1
Obj: 3

```

In [5]:

IPython console

History log

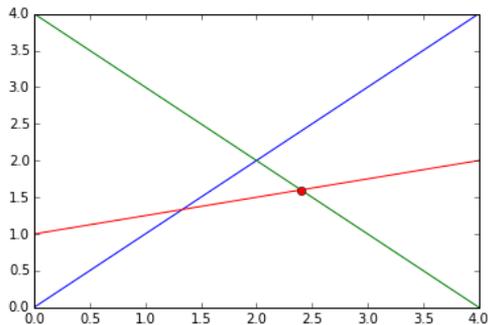




```
In [45]: from gurobipy import *
m = Model()
v0 = m.addVar()
v1 = m.addVar()
m.update()
m.addConstr(v0 - v1 <= 4) # Constraint 1
m.addConstr(v0 + v1 <= 4) # Constraint 2
m.addConstr(-0.25*v0 + v1 <= 1) # Constraint 3
m.setObjective(v1, GRB.MAXIMIZE) # Objective: maximize v1
m.params.outputflag = 0
m.optimize()
```

Plot the optimal solution...

```
In [46]: import matplotlib.pyplot as pyplot
pyplot.plot([0,4], [0,4]) # Constraint 1
pyplot.plot([4,0], [0,4]) # Constraint 2
pyplot.plot([0,4], [1,2]) # Constraint 3
pyplot.plot([v0.x], [v1.x], 'ro') # Plot the optimal vertex
pyplot.show()
```



In []:



Run



Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open:



OK

Cancel

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refman_misc/codedraw8.png