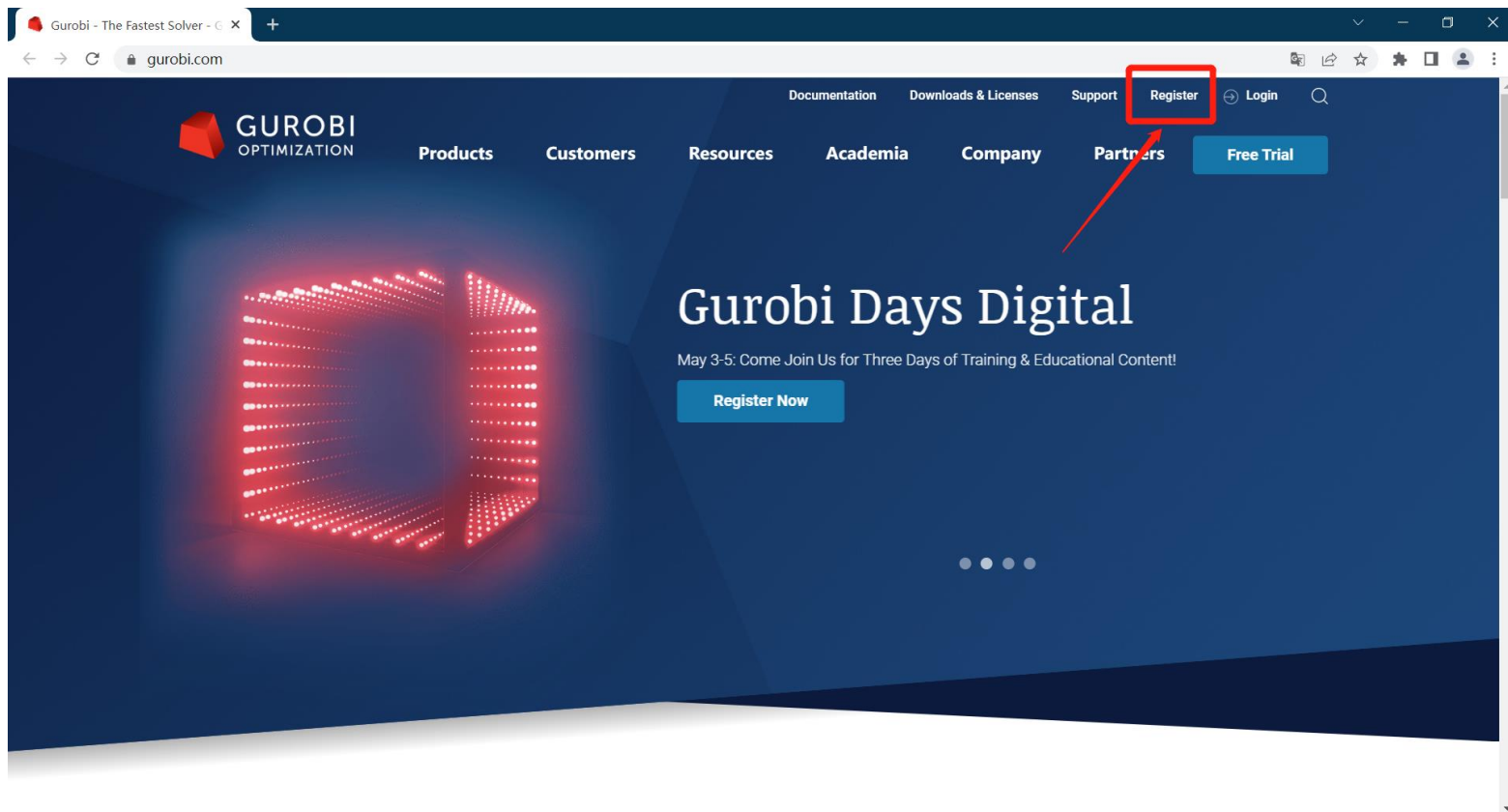

Gurobi入門



安装方法

安装方法

1. 打开gurobi官网(<https://www.gurobi.com/>), 点击上方注册按钮。



2.填写注册信息，注意类别选择Academic!

Start your registration by designating your account type as either **Commercial** or **Academic**:

Are you an Academic
or Commercial user?

* Academic ▼

First Name:

* San

Last Name:

* Zhang

Company Email
Address:

* zhangsan@mail2.sysu.edu.cn

University:

* Sun Yat-sen University

Industry:

Select... ▼

Academic Position:

Select... ▼

Phone Number:

* 123456789

Country:

* China ▼

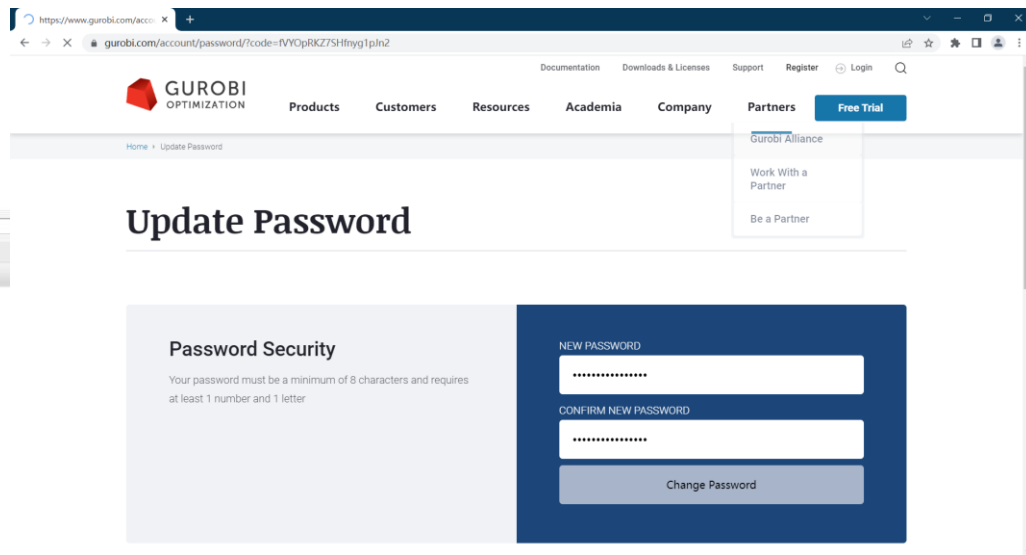
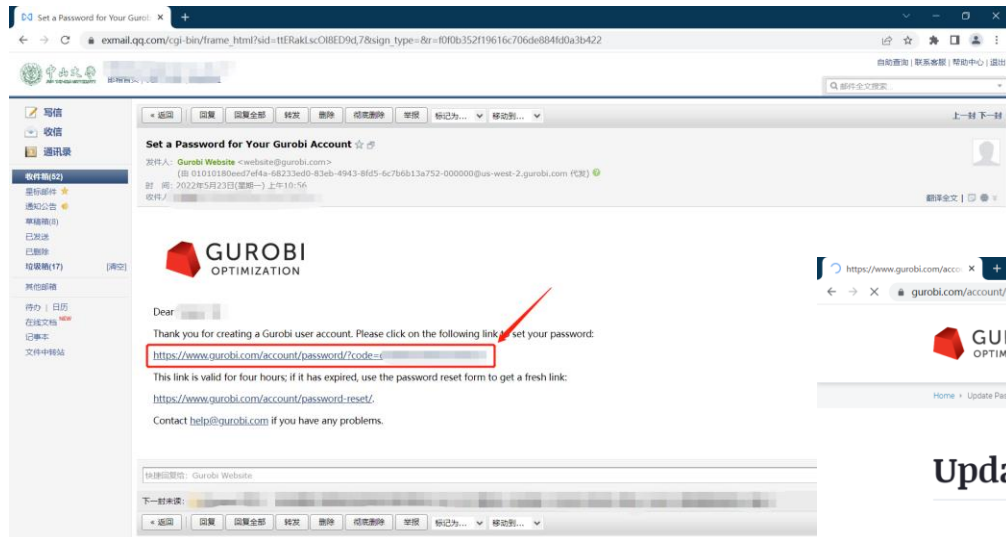
Check this box if you also consult with
commercial businesses: ☐

*Required: The information you provide to us will be used in accordance with the terms of our [Privacy Policy](#).

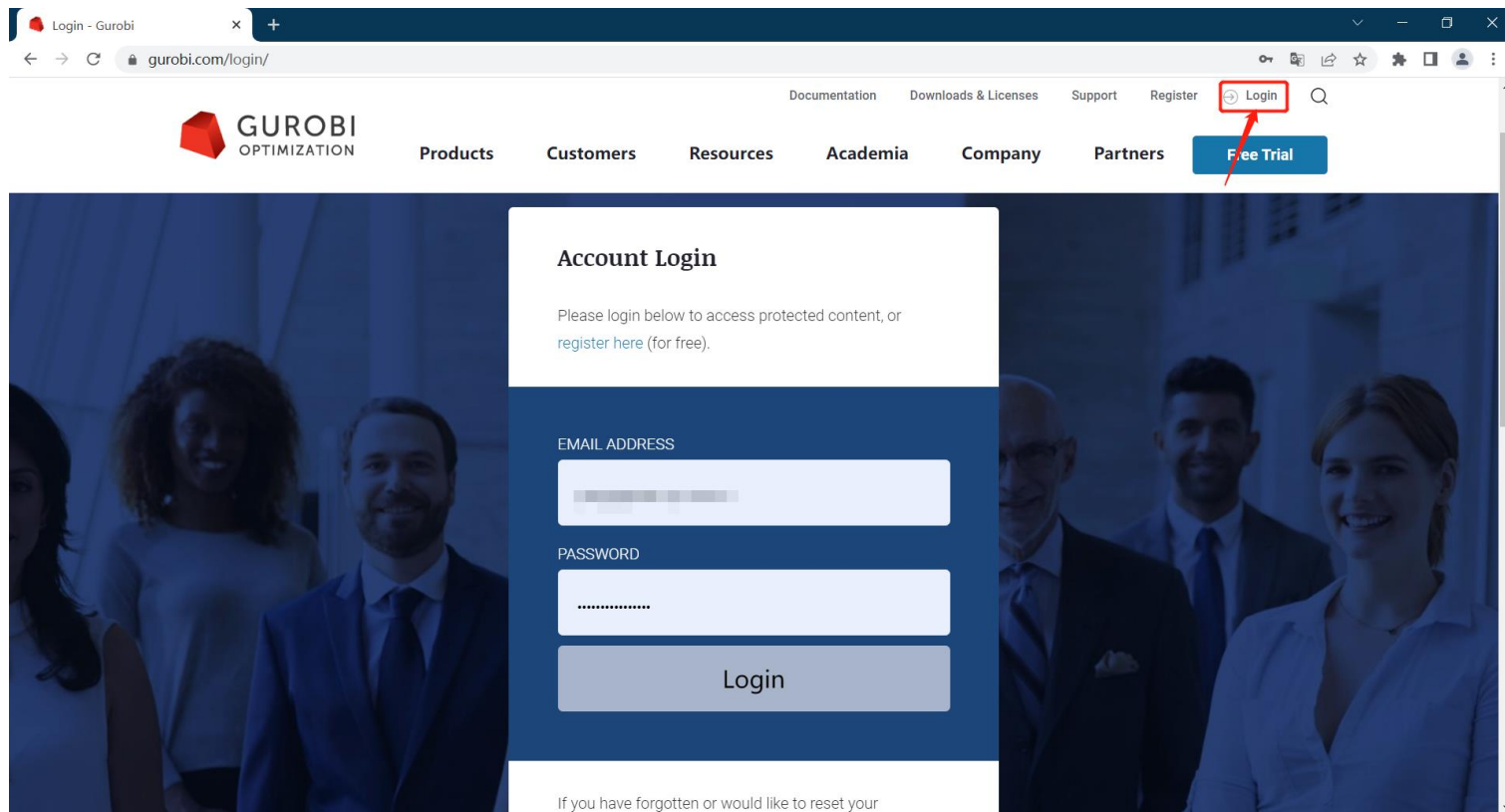
Access Now

安装方法

3.接收邮件，点击链接设置密码激活账号。



4.返回网站首页登陆账号。



Login - Gurobi

gurobi.com/login/

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GUROBI OPTIMIZATION

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Account Login

Please login below to access protected content, or [register here](#) (for free).

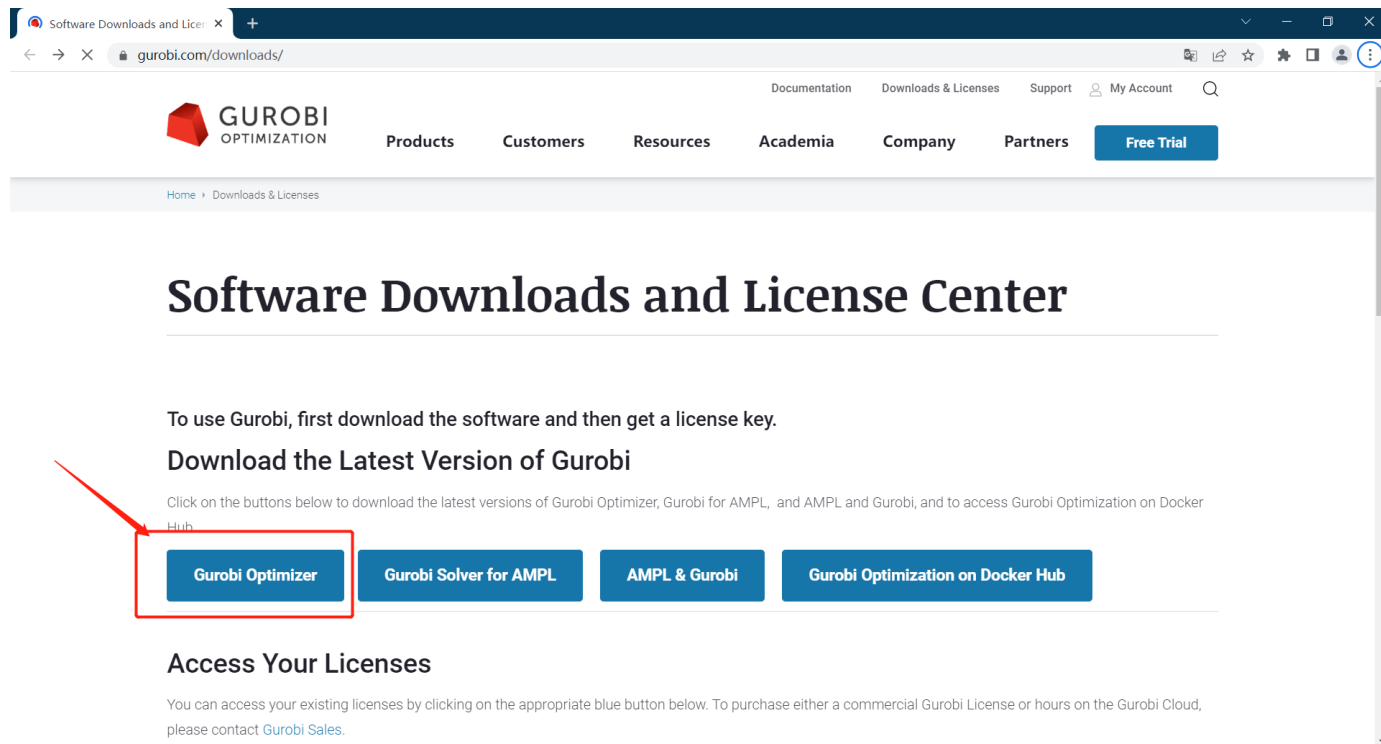
EMAIL ADDRESS

PASSWORD

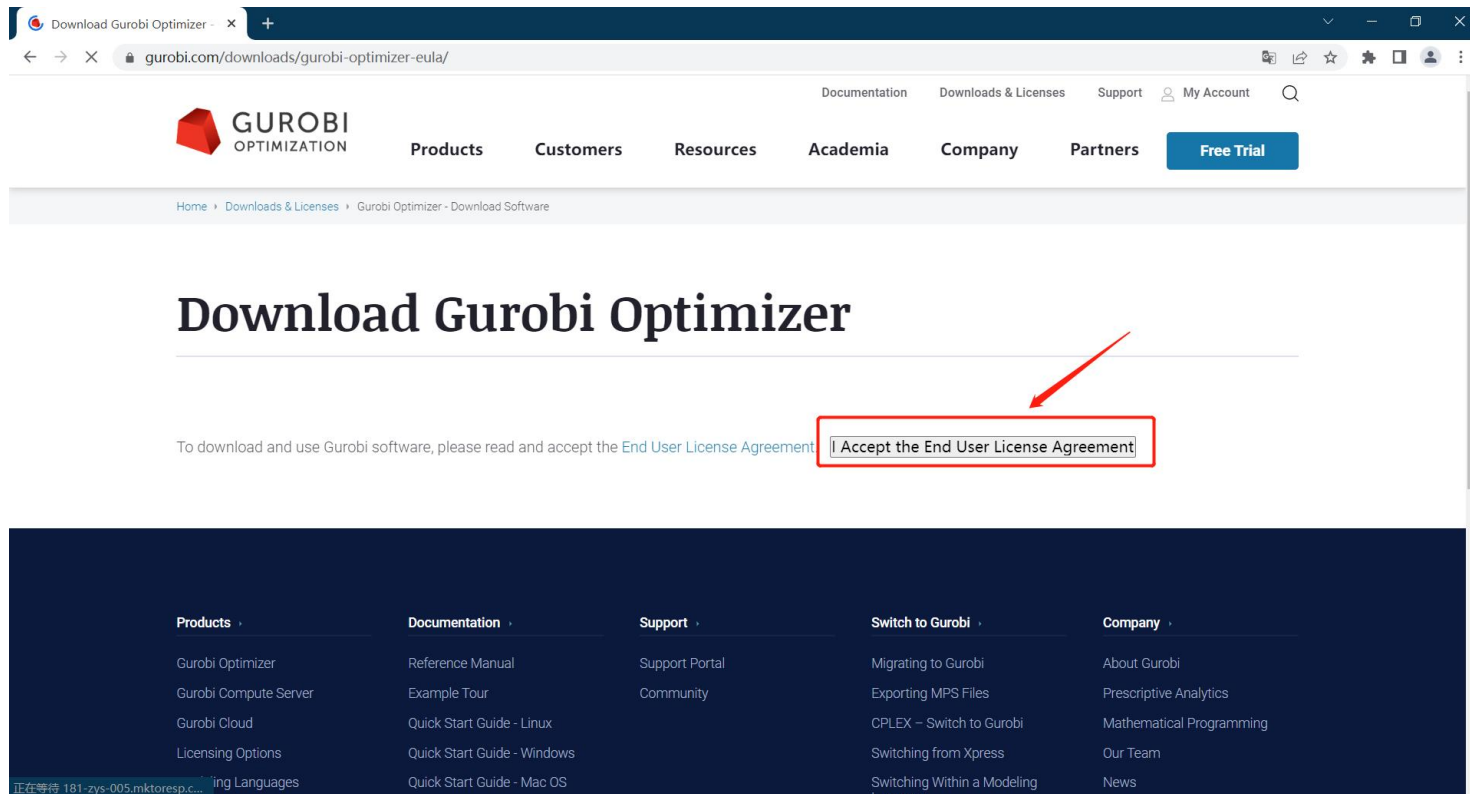
Login

If you have forgotten or would like to reset your

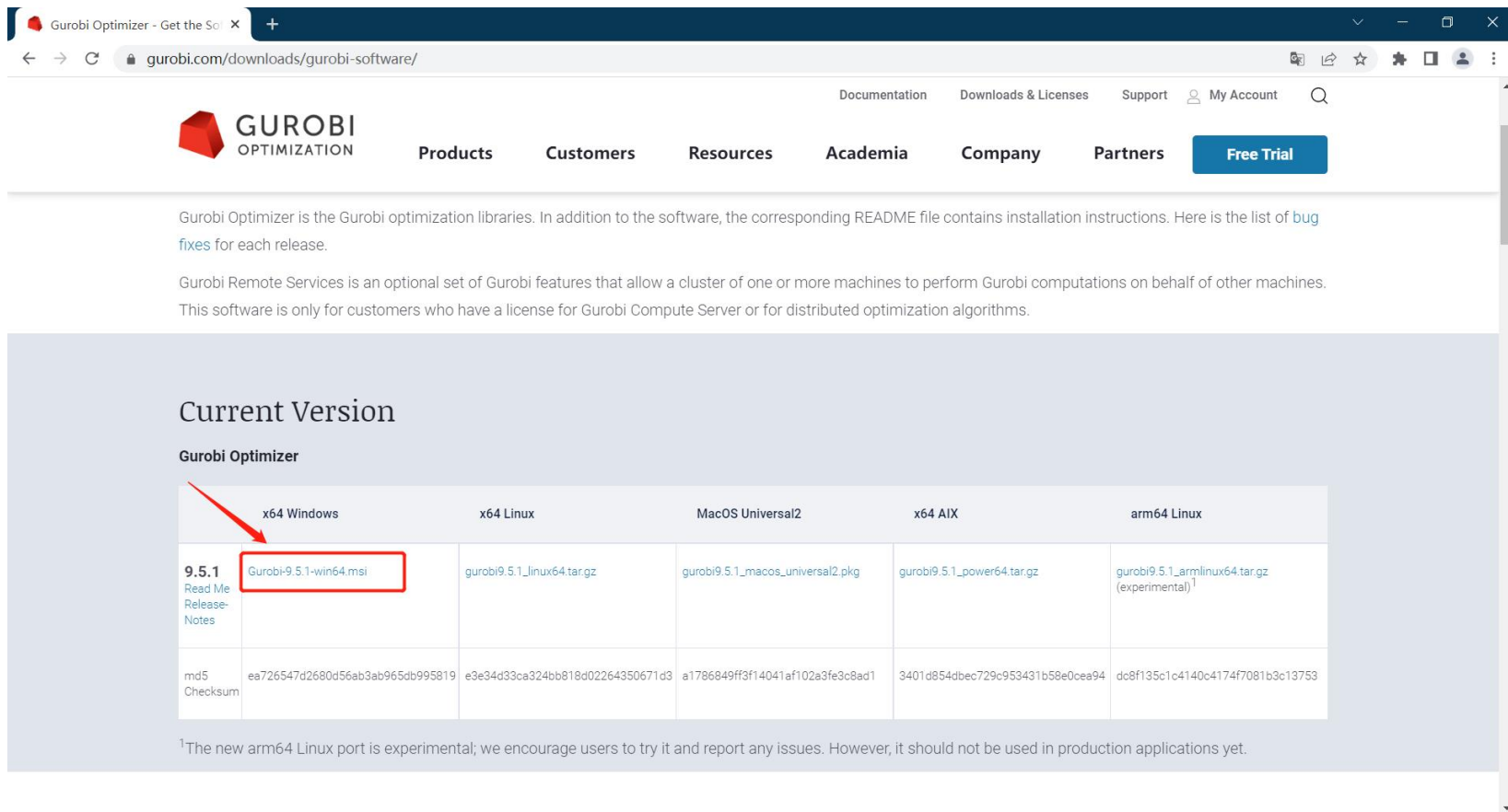
5. 访问下载页面(<https://www.gurobi.com/downloads/>), 点击优化器下载。



6. 点击接受协议进入下一级下载链接。



7. 找到适合你电脑的版本，点击下载。



Gurobi Optimizer - Get the Software

gurobi.com/downloads/gurobi-software/

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GUROBI OPTIMIZATION

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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.

Gurobi Remote Services is an optional set of Gurobi features that allow a cluster of one or more machines to perform Gurobi computations on behalf of other machines. This software is only for customers who have a license for Gurobi Compute Server or for distributed optimization algorithms.

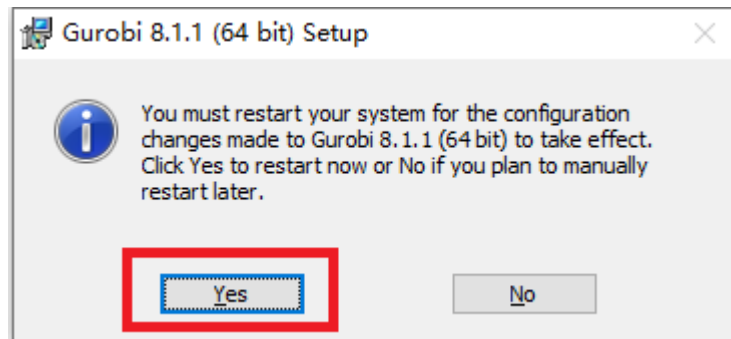
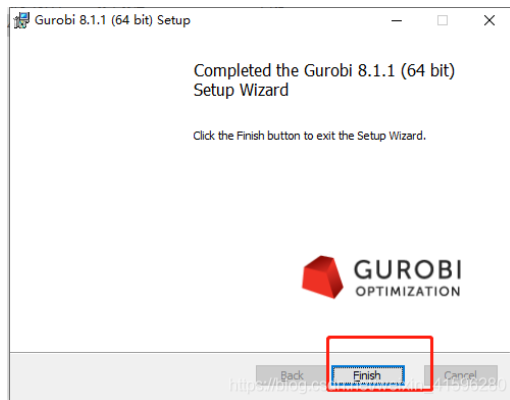
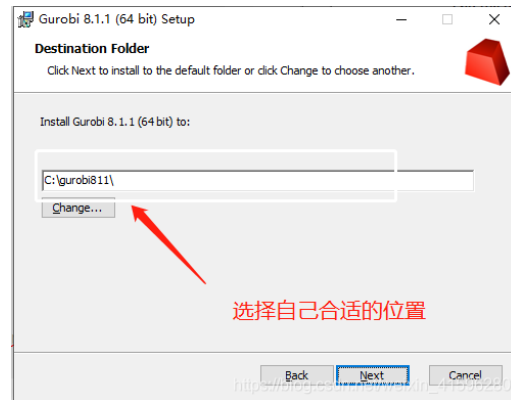
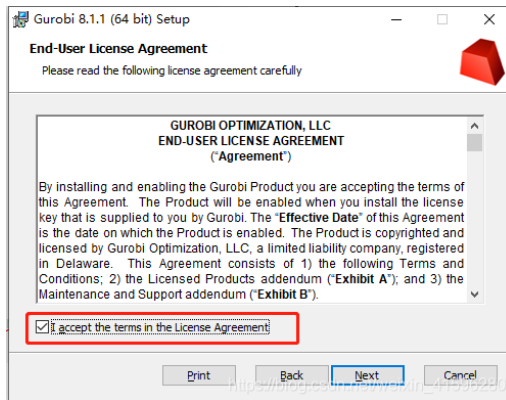
Current Version

Gurobi Optimizer

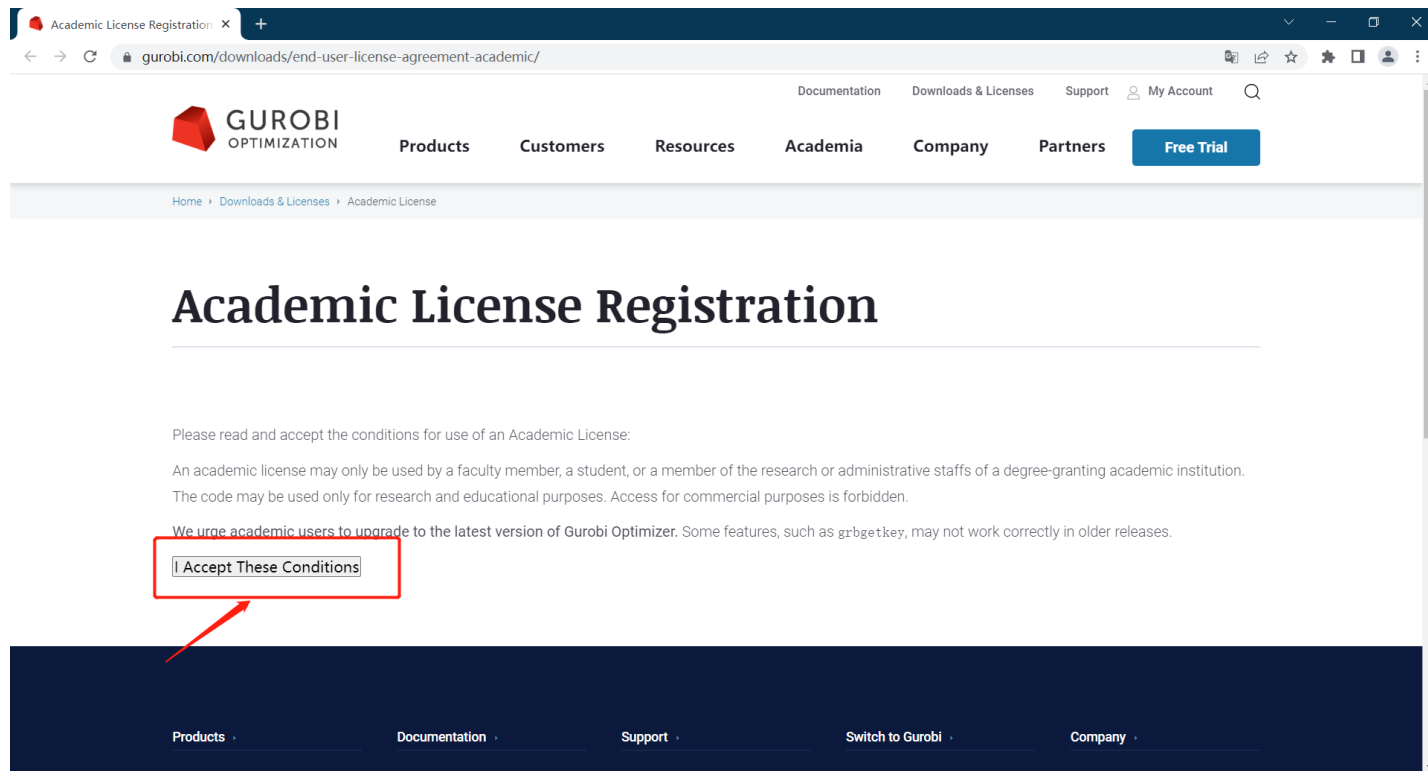
	x64 Windows	x64 Linux	MacOS Universal2	x64 AIX	arm64 Linux
9.5.1 Read Me Release Notes	Gurobi-9.5.1-win64.msi	gurobi9.5.1_linux64.tar.gz	gurobi9.5.1_macos_universal2.pkg	gurobi9.5.1_power64.tar.gz	gurobi9.5.1_armlinux64.tar.gz (experimental)¹
md5 Checksum	ea726547d2680d56ab3ab965db995819	e3e34d33ca324bb818d02264350671d3	a1786849ff3f14041af102a3fe3c8ad1	3401d854dbec729c953431b58e0cea94	dc8f135c1c4140c4174f7081b3c13753

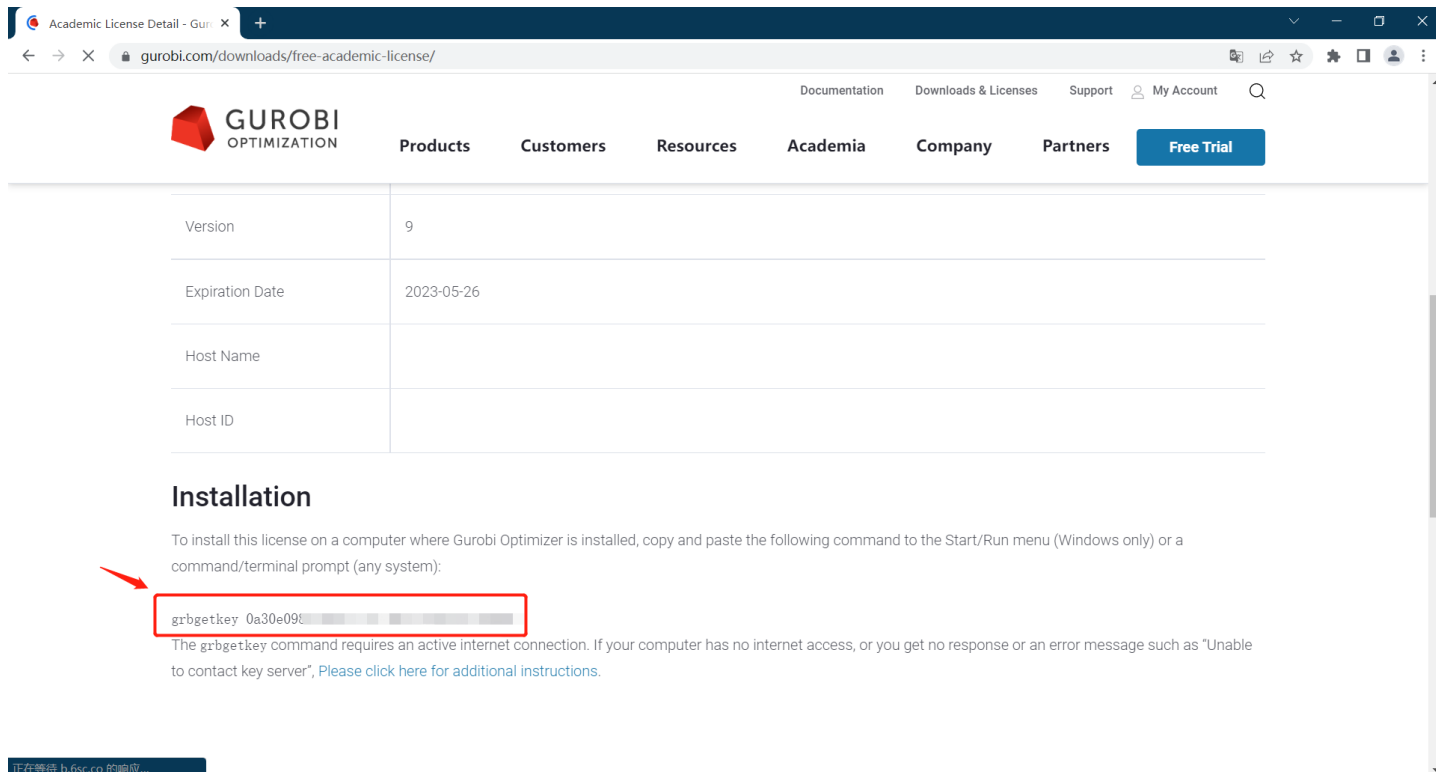
¹The new arm64 Linux port is experimental; we encourage users to try it and report any issues. However, it should not be used in production applications yet.

8. 安装Gurobi, 最后点击Yes重启电脑。



9. 在校园网环境下访问学术证书申请网页，并接受条款 (<https://www.gurobi.com/downloads/end-user-license-agreement-academic/>)





Academic License Detail - Gurobi

gurobi.com/downloads/free-academic-license/

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GUROBI
OPTIMIZATION

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Version	9
Expiration Date	2023-05-26
Host Name	
Host ID	

Installation

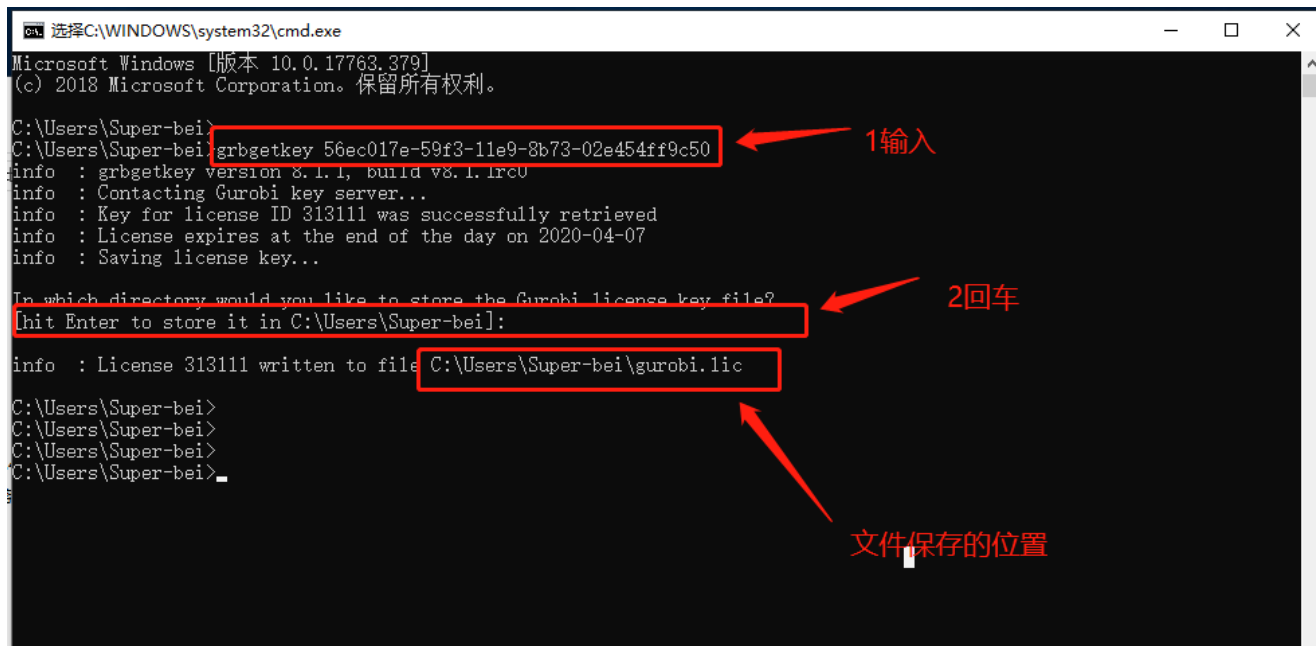
To install this license on a computer where Gurobi Optimizer is installed, copy and paste the following command to the Start/Run menu (Windows only) or a command/terminal prompt (any system):

```
grbgetkey 0a30e09t...
```

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

正在等待 h.6sc.co 的响应...

11.在cmd下黏贴刚刚的指令。如果提示“Unable to contact key server”，安装失败；那你就得重新来激活，跟网速有一定关系，如果顺利就如下图所示了，记住激活后千万别急着关闭窗口，记一下文件最后的保存位置。



```
选择C:\WINDOWS\system32\cmd.exe
Microsoft Windows [版本 10.0.17763.379]
(c) 2018 Microsoft Corporation。保留所有权利。

C:\Users\Super-bei>grbgetkey 56ec017e-59f3-11e9-8b73-02e454ff9c50
info : grbgetkey version 8.1.1, build v8.1.1rc0
info : Contacting Gurobi key server...
info : Key for license ID 313111 was successfully retrieved
info : License expires at the end of the day on 2020-04-07
info : Saving license key...

In which directory would you like to store the Gurobi license key file?
[hit Enter to store it in C:\Users\Super-bei]:
info : License 313111 written to file C:\Users\Super-bei\gurobi.lic

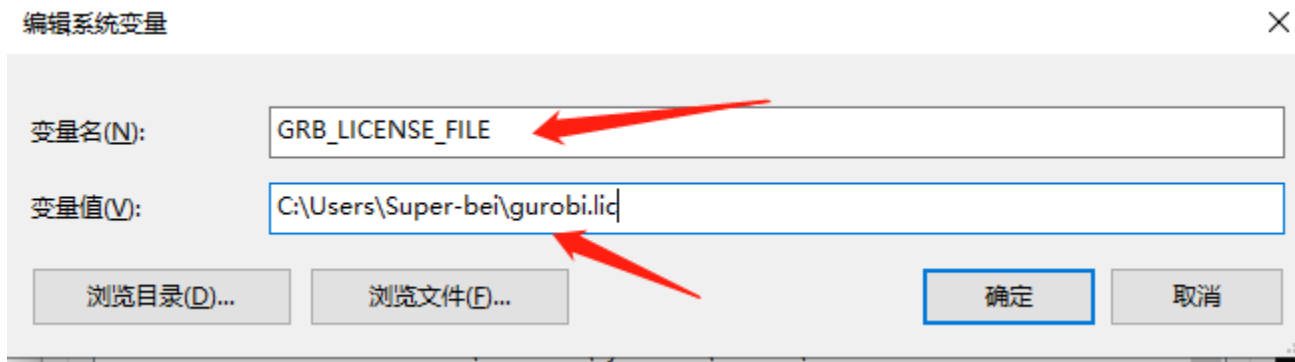
C:\Users\Super-bei>
C:\Users\Super-bei>
C:\Users\Super-bei>
C:\Users\Super-bei>
```

1输入

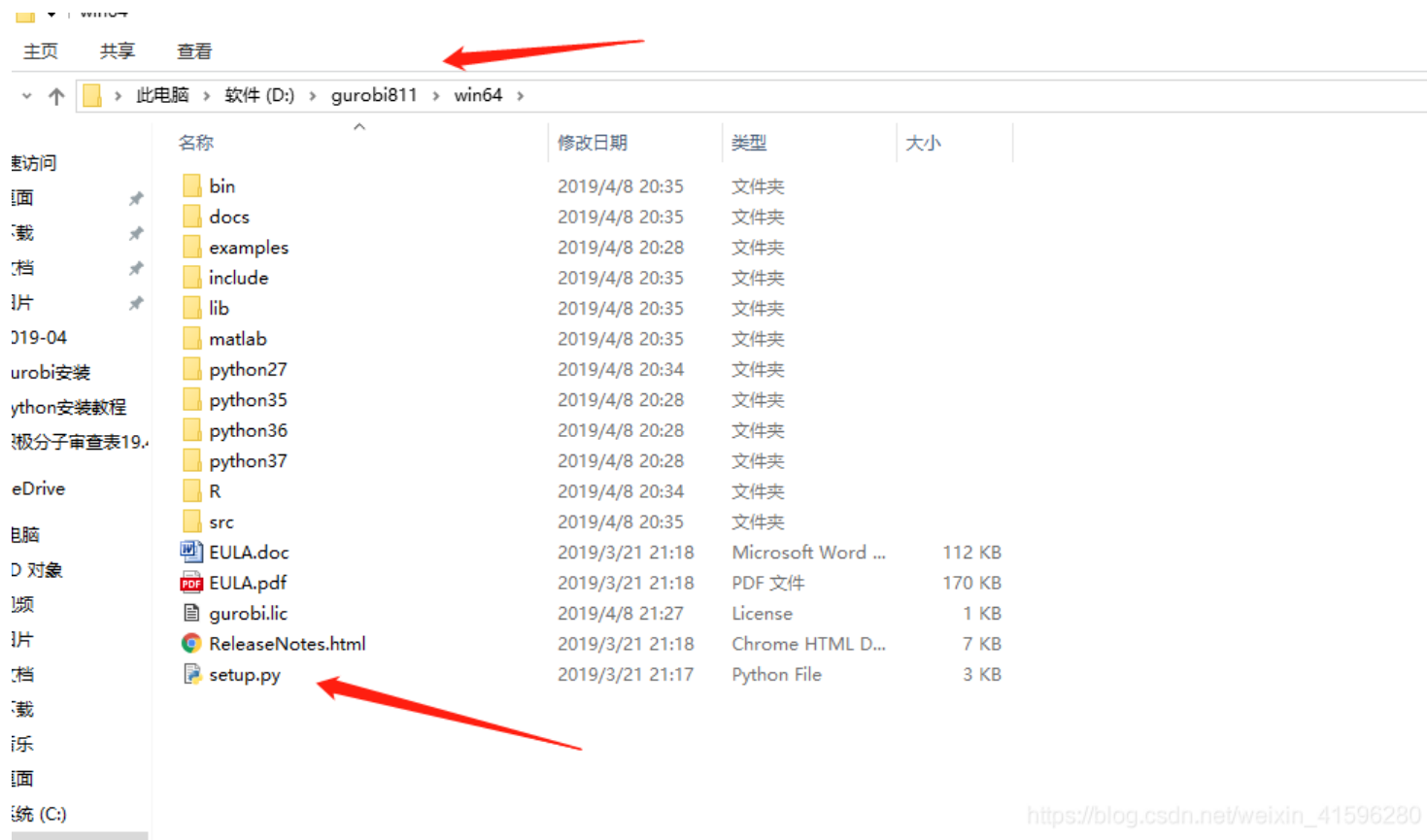
2回车

文件保存的位置

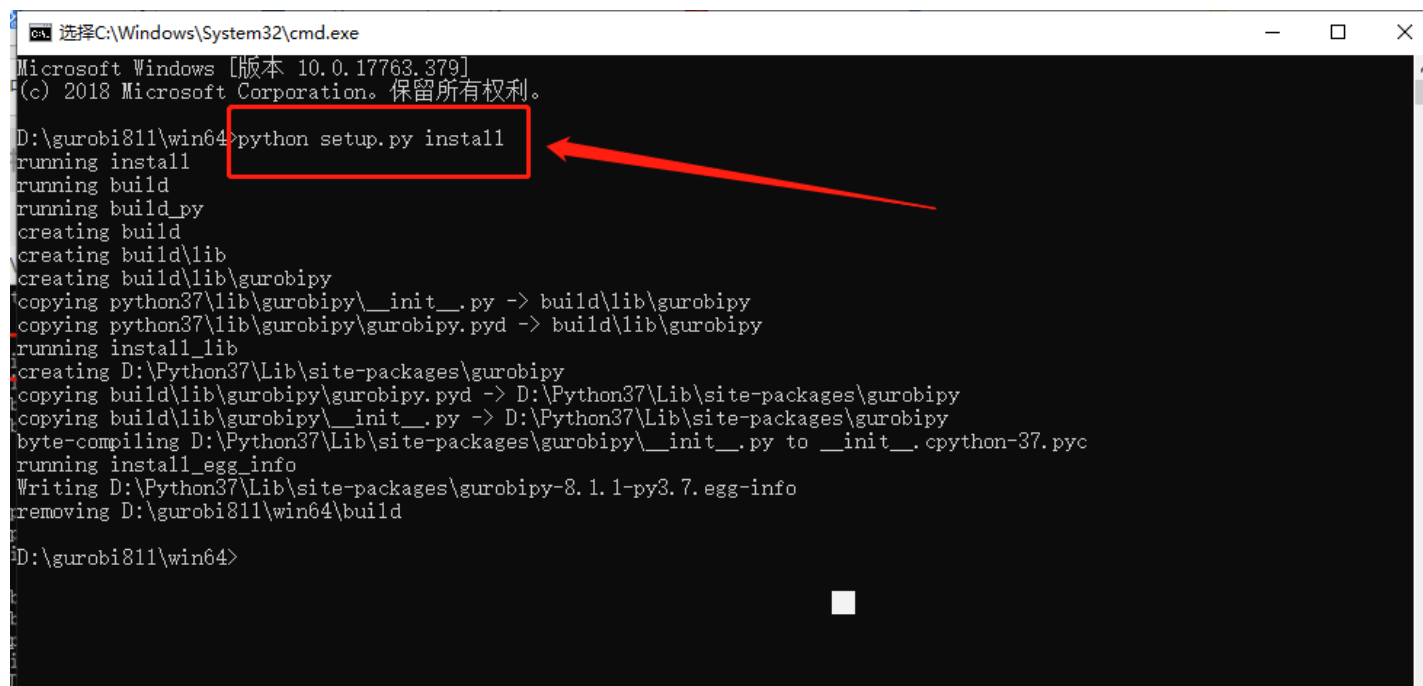
12. 为了让Gurobi找到License的位置，必须设置一个环境变量GRB_LICENSE_FILE。变量值就是刚刚证书保存的位置。



13.在cmd中切换路径到gurobi安装路径下，使用
python setup.py install 运行安装程序



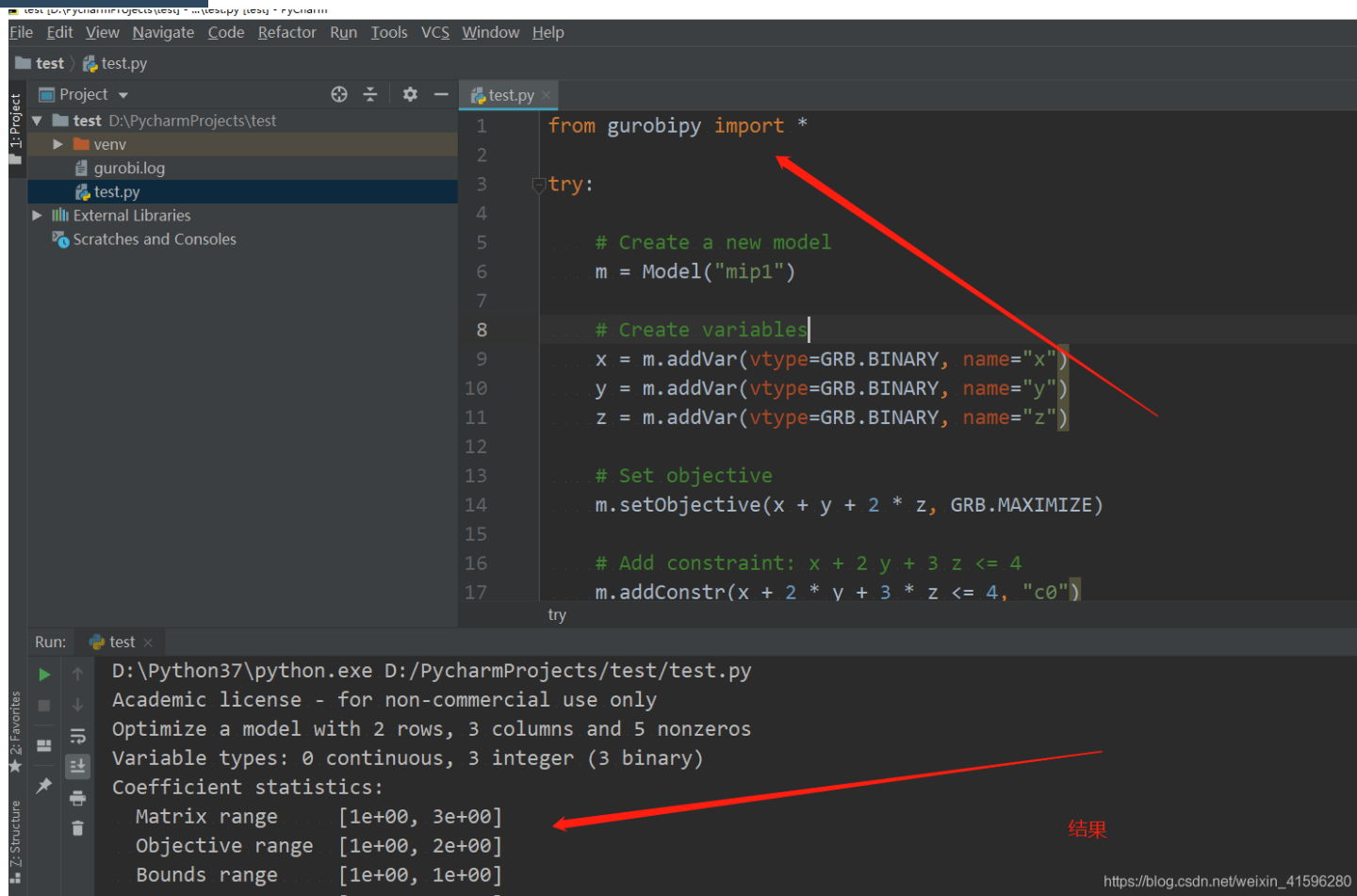
13.在cmd中切换路径到gurobi安装路径下，使用python setup.py install 运行安装程序。大功告成！



```
cmd 选择C:\Windows\System32\cmd.exe
Microsoft Windows [版本 10.0.17763.379]
(c) 2018 Microsoft Corporation. 保留所有权利。

D:\gurobi811\win64>python setup.py install
running install
running build
running build_py
creating build
creating build\lib
creating build\lib\gurobipy
copying python37\lib\gurobipy\__init__.py -> build\lib\gurobipy
copying python37\lib\gurobipy\gurobipy.pyd -> build\lib\gurobipy
running install_lib
creating D:\Python37\Lib\site-packages\gurobipy
copying build\lib\gurobipy\gurobipy.pyd -> D:\Python37\Lib\site-packages\gurobipy
copying build\lib\gurobipy\__init__.py -> D:\Python37\Lib\site-packages\gurobipy
byte-compiling D:\Python37\Lib\site-packages\gurobipy\__init__.py to __init__.cpython-37.pyc
running install_egg_info
Writing D:\Python37\Lib\site-packages\gurobipy-8.1.1-py3.7.egg-info
removing D:\gurobi811\win64\build

D:\gurobi811\win64>
```

The image shows a PyCharm IDE with a Python script named `test.py` and its execution output in the Run console. A red arrow points from the `from gurobipy import *` line in the script to the `结果` (Result) text in the console output.

```
1 from gurobipy import *
2
3 try:
4     # Create a new model
5     m = Model("mip1")
6
7     # Create variables
8     x = m.addVar(vtype=GRB.BINARY, name="x")
9     y = m.addVar(vtype=GRB.BINARY, name="y")
10    z = m.addVar(vtype=GRB.BINARY, name="z")
11
12    # Set objective
13    m.setObjective(x + y + 2 * z, GRB.MAXIMIZE)
14
15    # Add constraint: x + 2 y + 3 z <= 4
16    m.addConstr(x + 2 * y + 3 * z <= 4, "c0")
17
```

Run: test ×

```
D:\Python37\python.exe D:/PycharmProjects/test/test.py
Academic license - for non-commercial use only
Optimize a model with 2 rows, 3 columns and 5 nonzeros
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]
```

结果

https://blog.csdn.net/weixin_41596280

范例演示

线性规划

$$\max x + y + 2z$$

$$s.t. \quad 2x + 3y + 4z \leq 4 \quad x + y \geq 1 \quad x, y, z \text{ are all real numbers}$$

```
1 from gurobipy import *
2 #创建模型
3 model = Model("test")
4 #新建决策变量 INTEGER CONTINUOUS
5 x = model.addVar(vtype = GRB.CONTINUOUS, name = "x")
6 y = model.addVar(vtype = GRB.CONTINUOUS, name = "y")
7 z = model.addVar(vtype = GRB.CONTINUOUS, name = "z")
8 #设置优化目标, 最大化m
9 model.setObjective(x + y + 2 * z, GRB.MAXIMIZE)
10 #添加约束: 2 x + 3 y + 4 z <= 4
11 model.addConstr(2 * x + 3 * y + 4 * z <= 4, "c0")
12 #添加约束: x + y >= 1
13 model.addConstr(x + y >= 1, "c1")
14 #进行求解
15 model.optimize()
16 #输出决策变量在最优解下的值
17 for v in model.getVars():
18     print('%s %g' % (v.varName, v.x))
19 #输出最优解
20 print('Obj: %g' % model.objVal)
```

```
Optimal objective 2.000000000e+00
x 1
y 0
z 0.5
Obj: 2
```

谢谢！！

