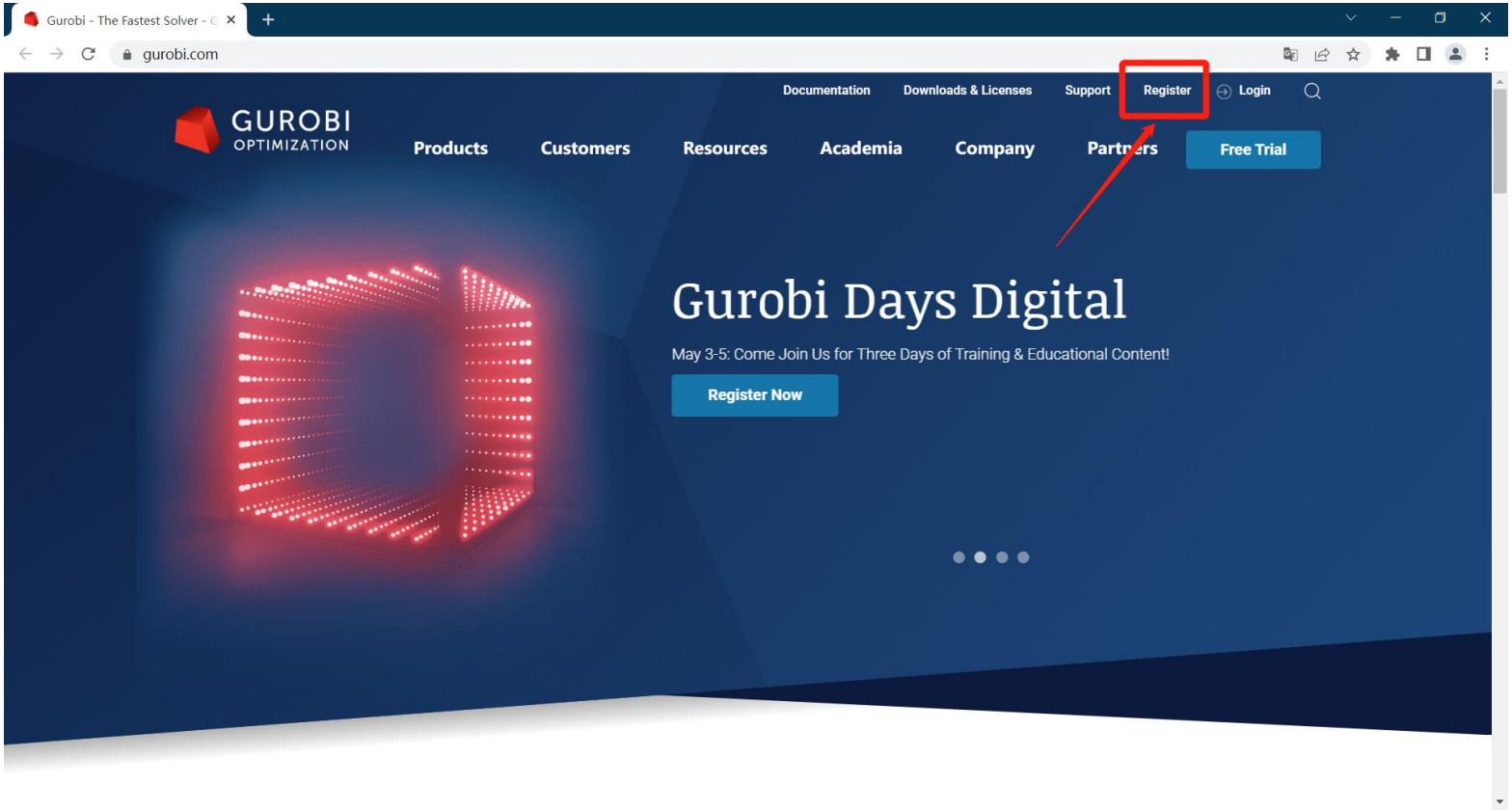
Gurobi入門

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。



安装方法

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

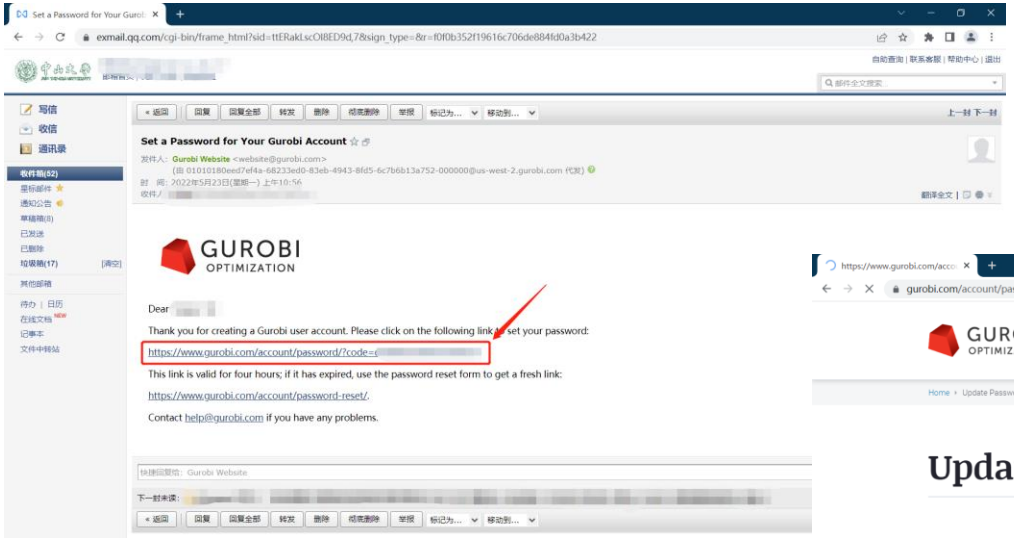
Check this box if you also consult with commercial businesses: ☐

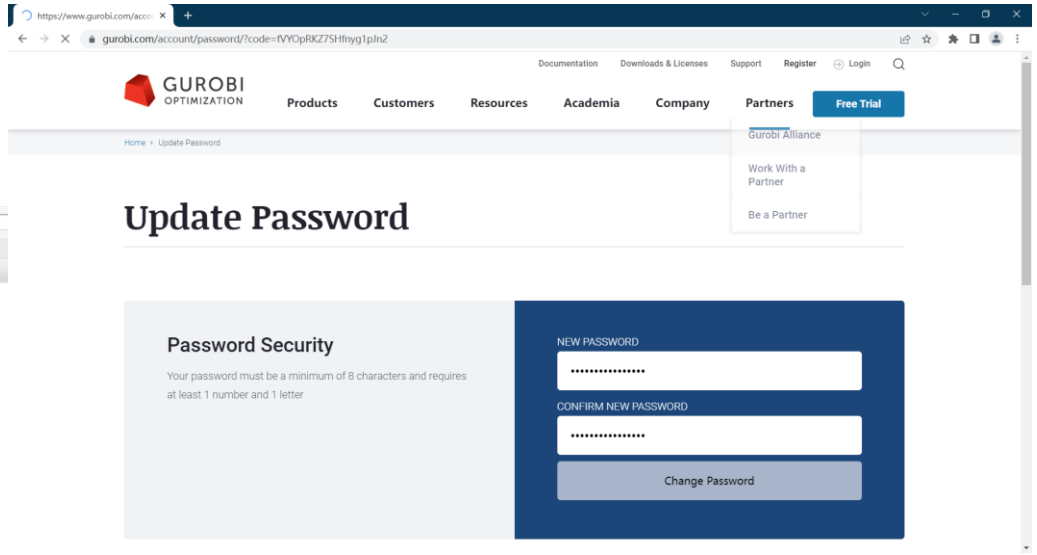
*Required: The information you provide to us will be used in accordance with the terms of our Privacy Policy.

Access Now

安装方法

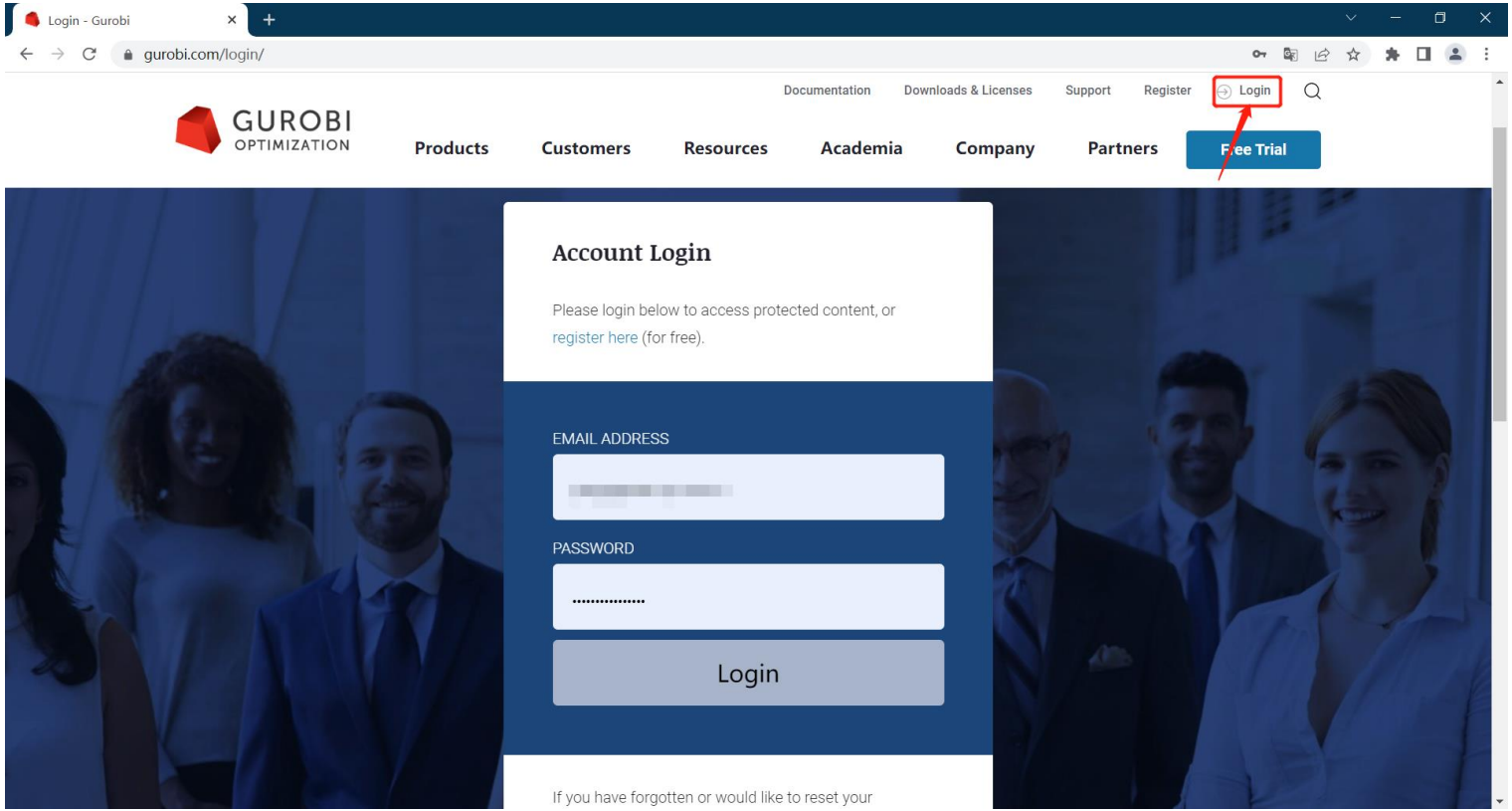
3.接收邮件，点击链接设置密码激活账号。





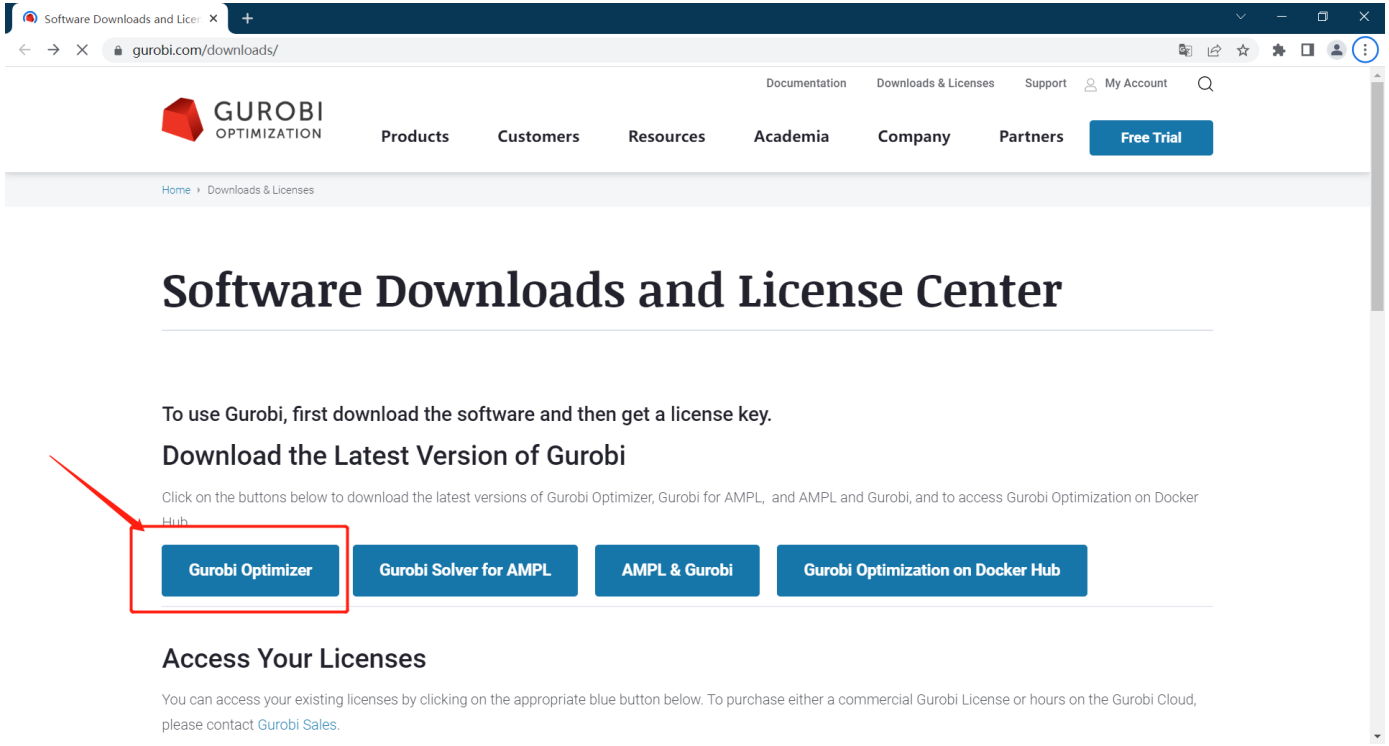
安装方法

4.返回网站首页登陆账号。



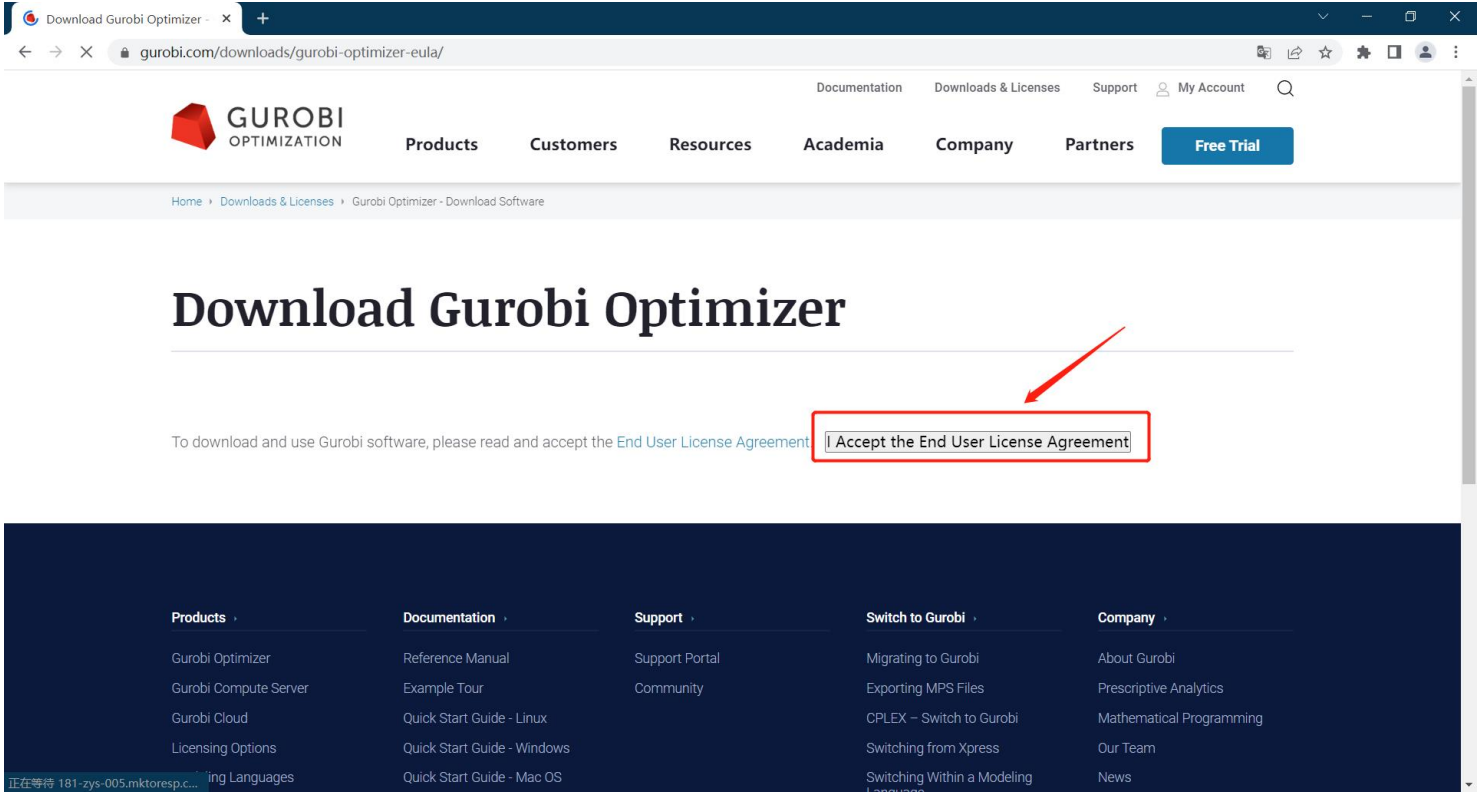
安装方法

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



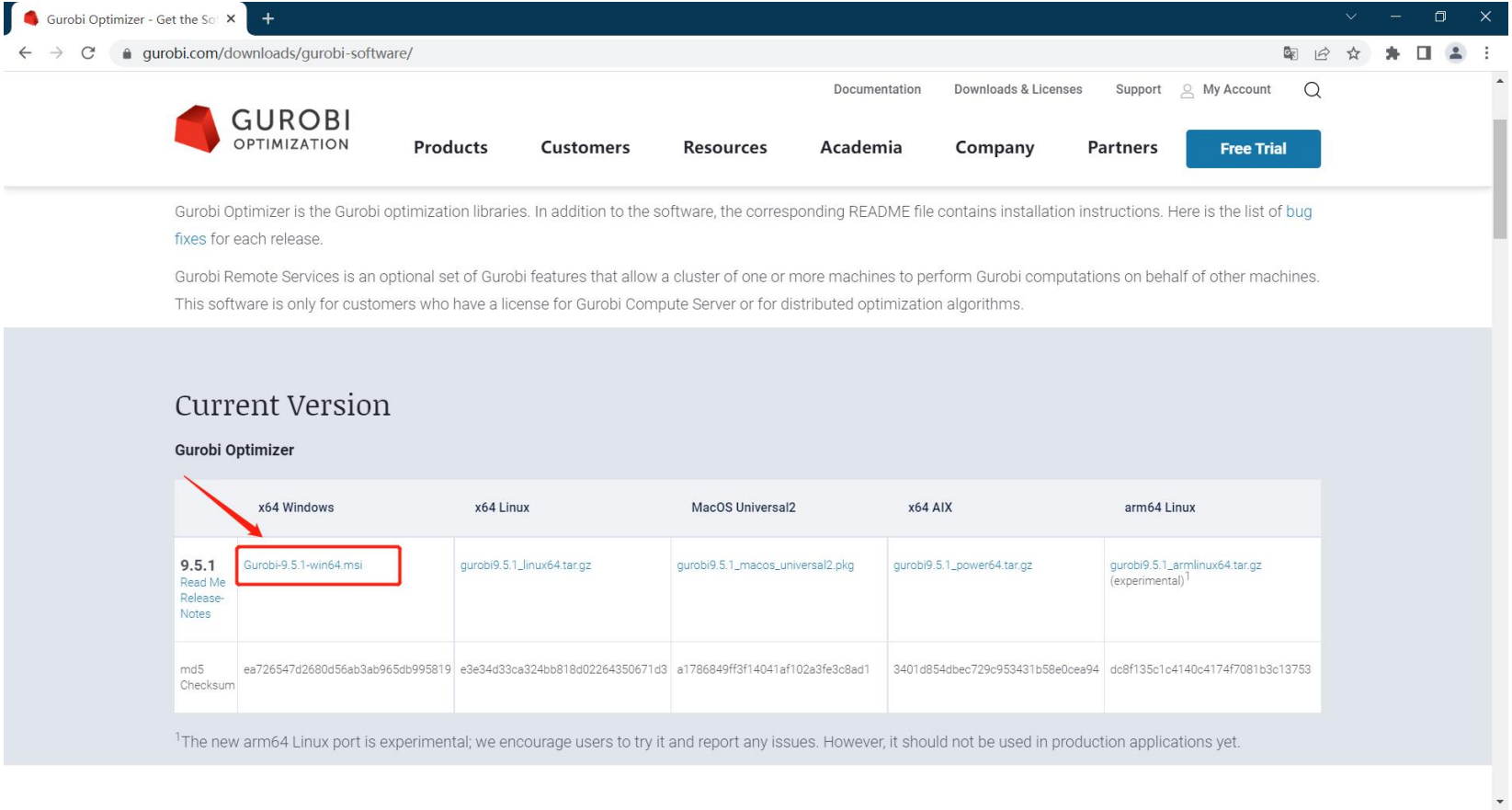
安装方法

6.点击接受协议进入下一级下载链接。



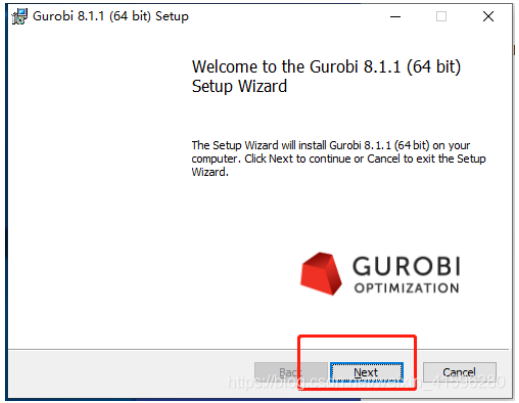
安装方法

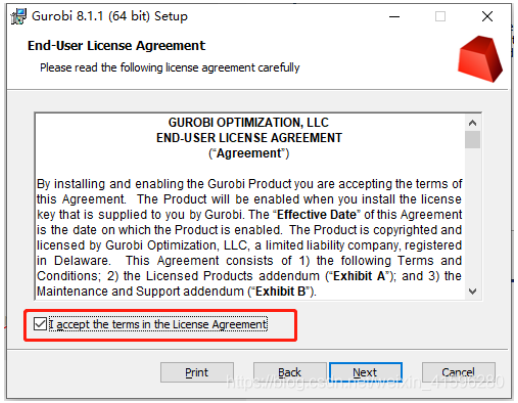
7. 找到适合你电脑的版本，点击下载。

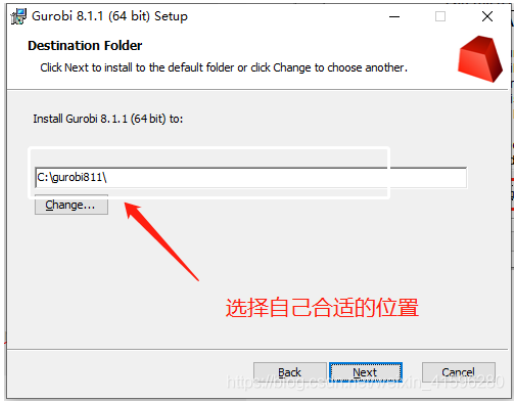


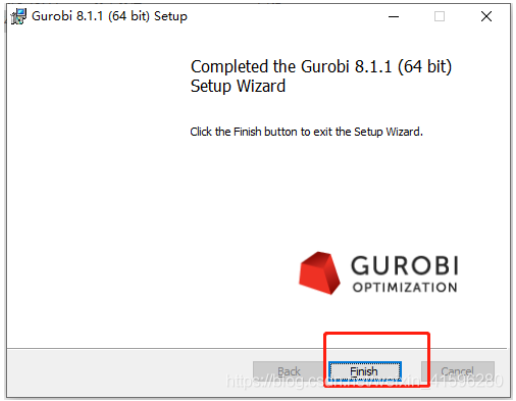
安装方法

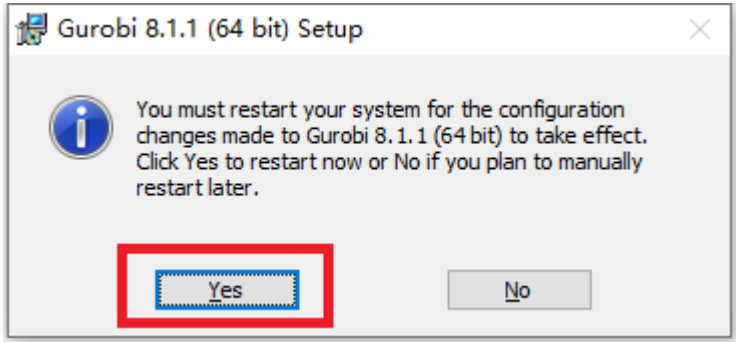
8. 安装Gurobi，最后点击Yes重启电脑。





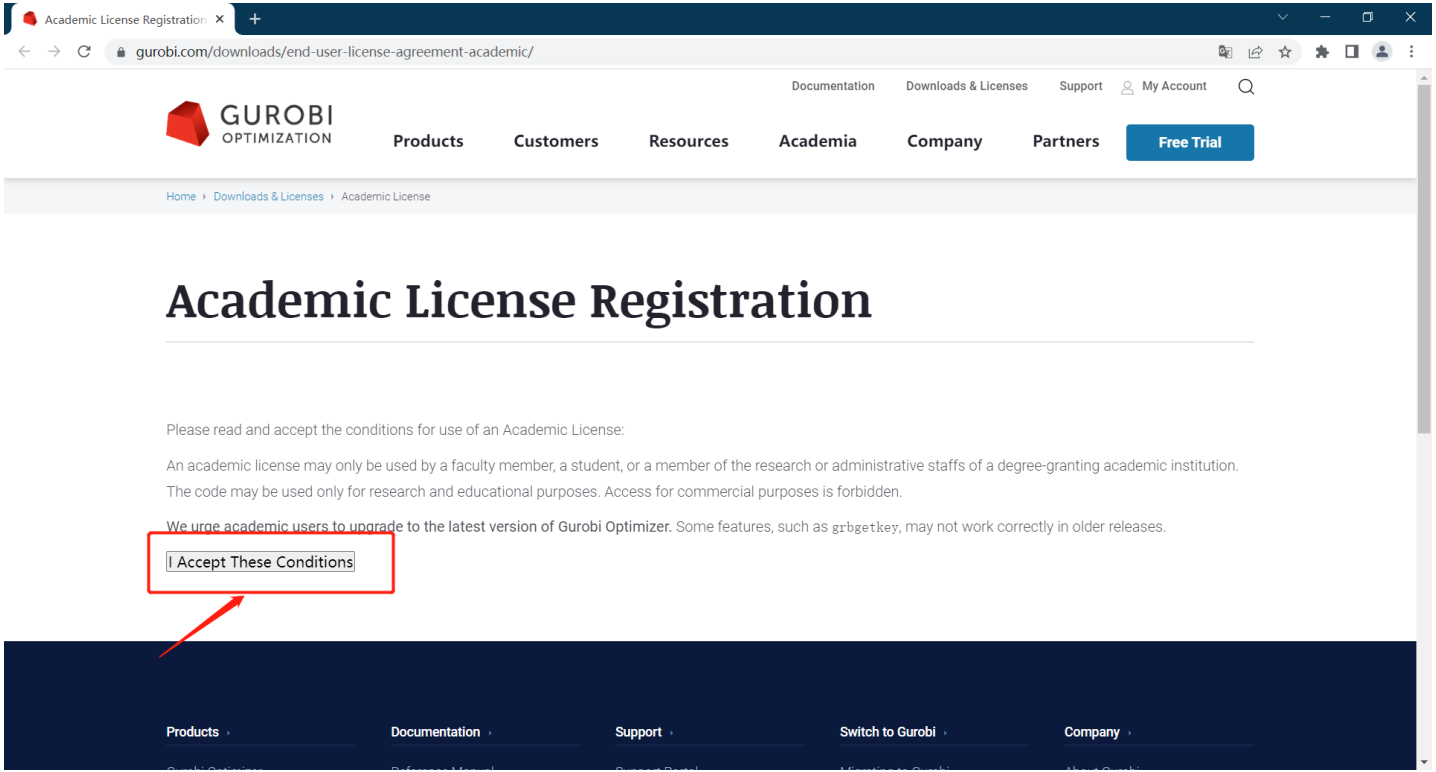






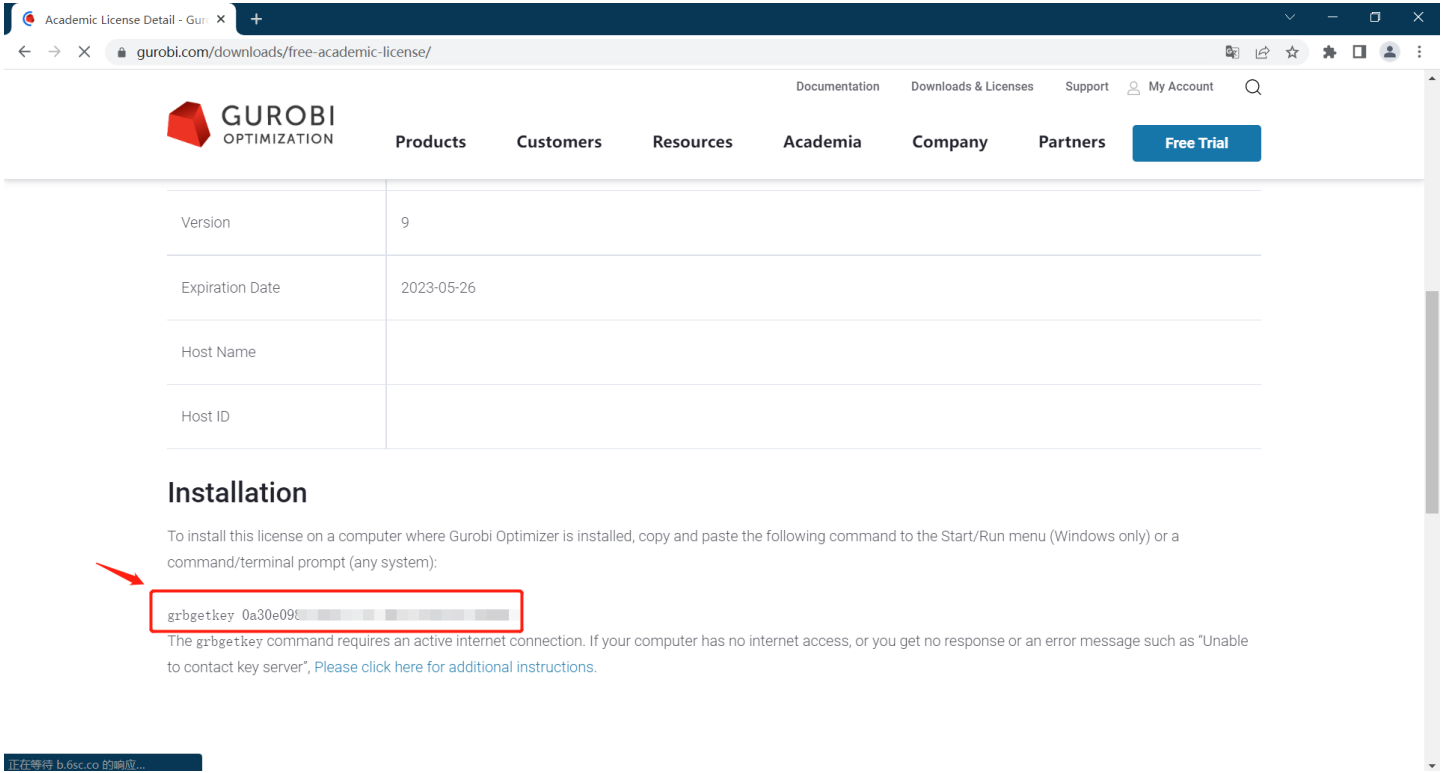
安装方法

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/)



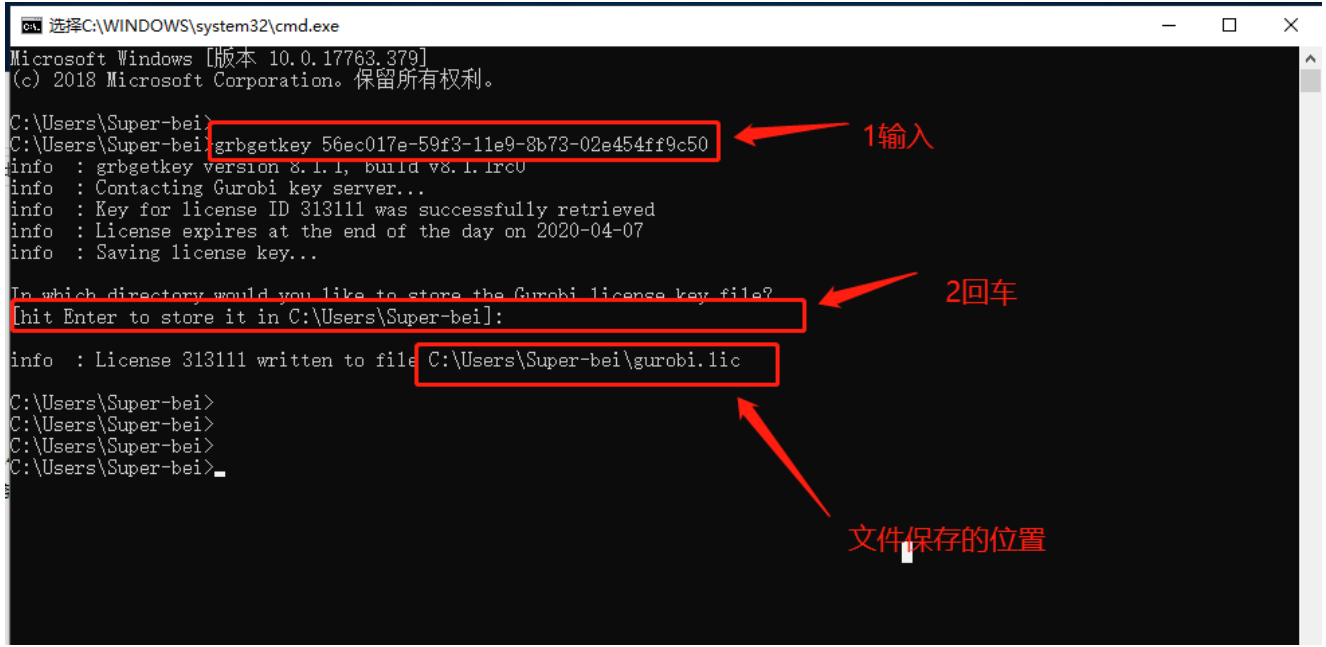
安装方法

10.得到证书，复制grbgetkey……指令。



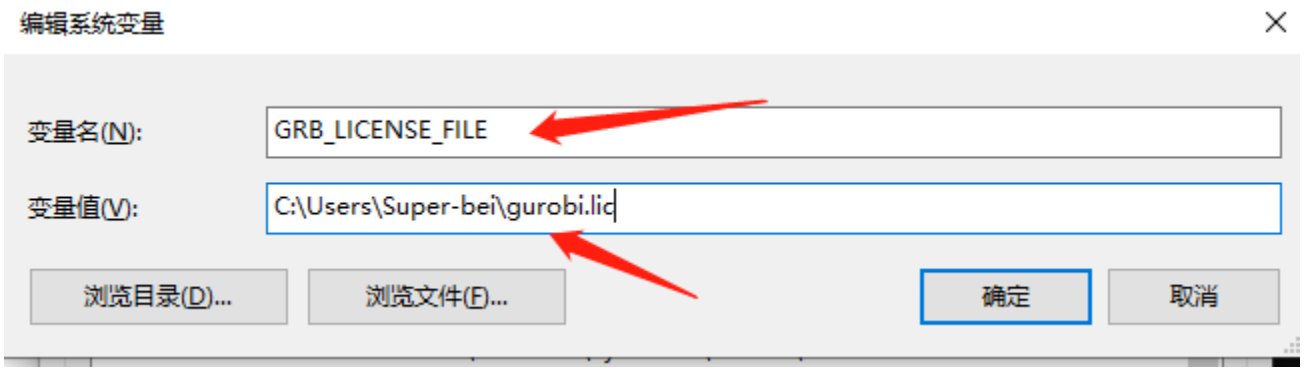
安装方法

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。



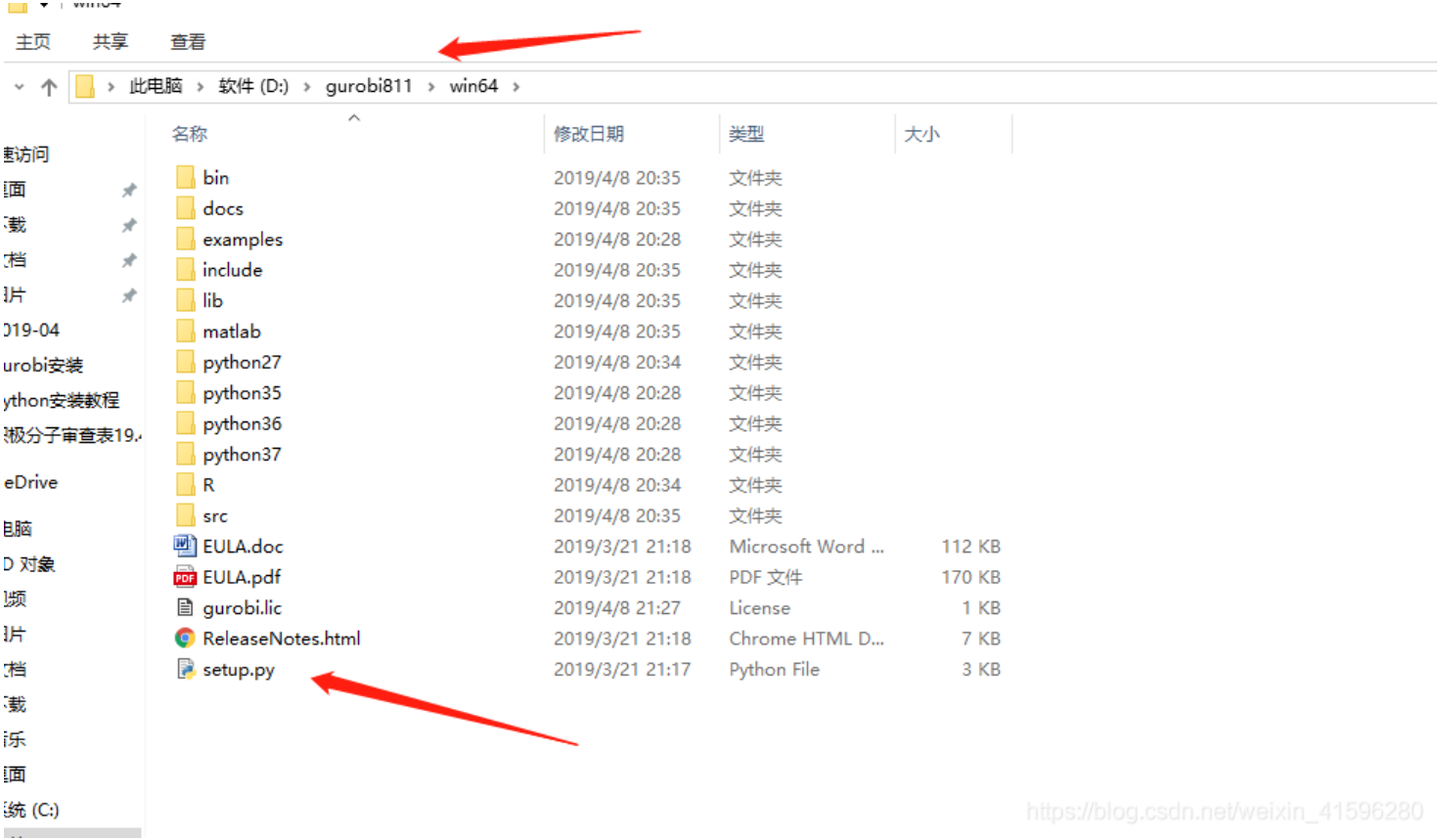
安装方法

12.为了让Gurobi查找到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。



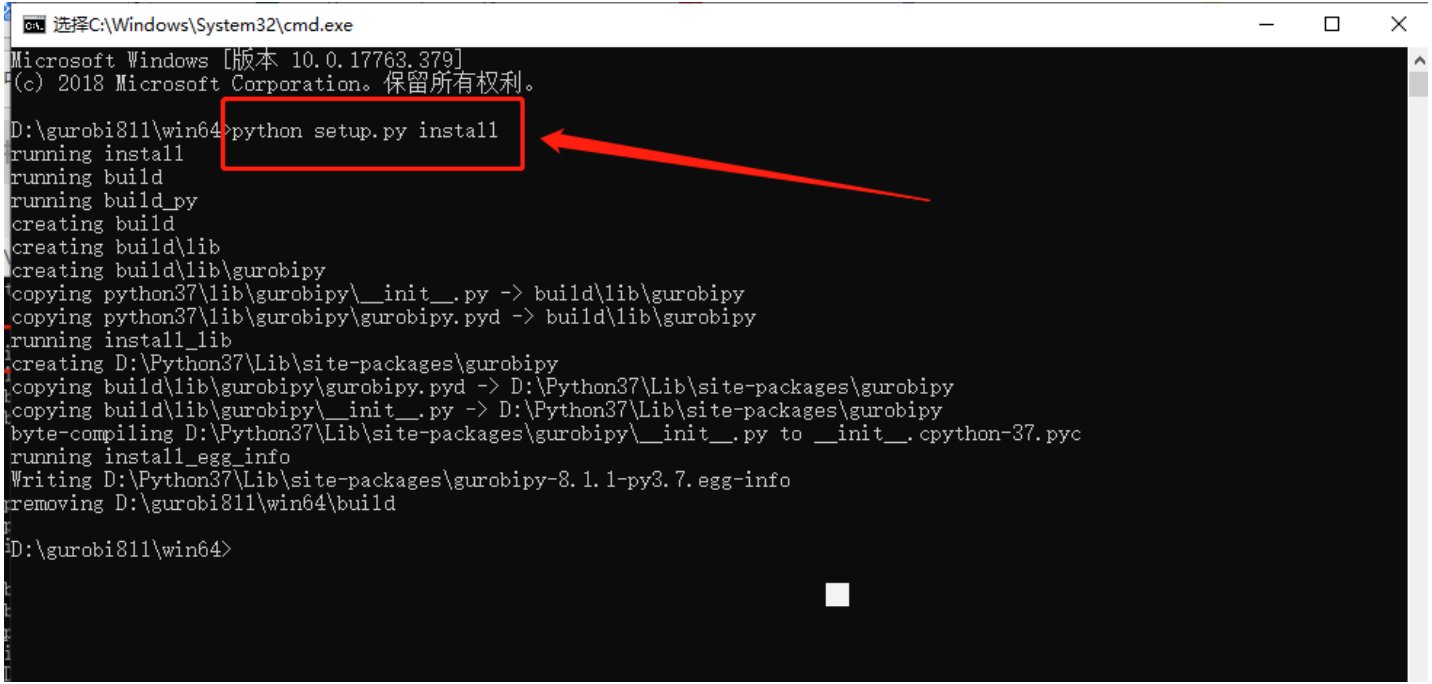
安装方法

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



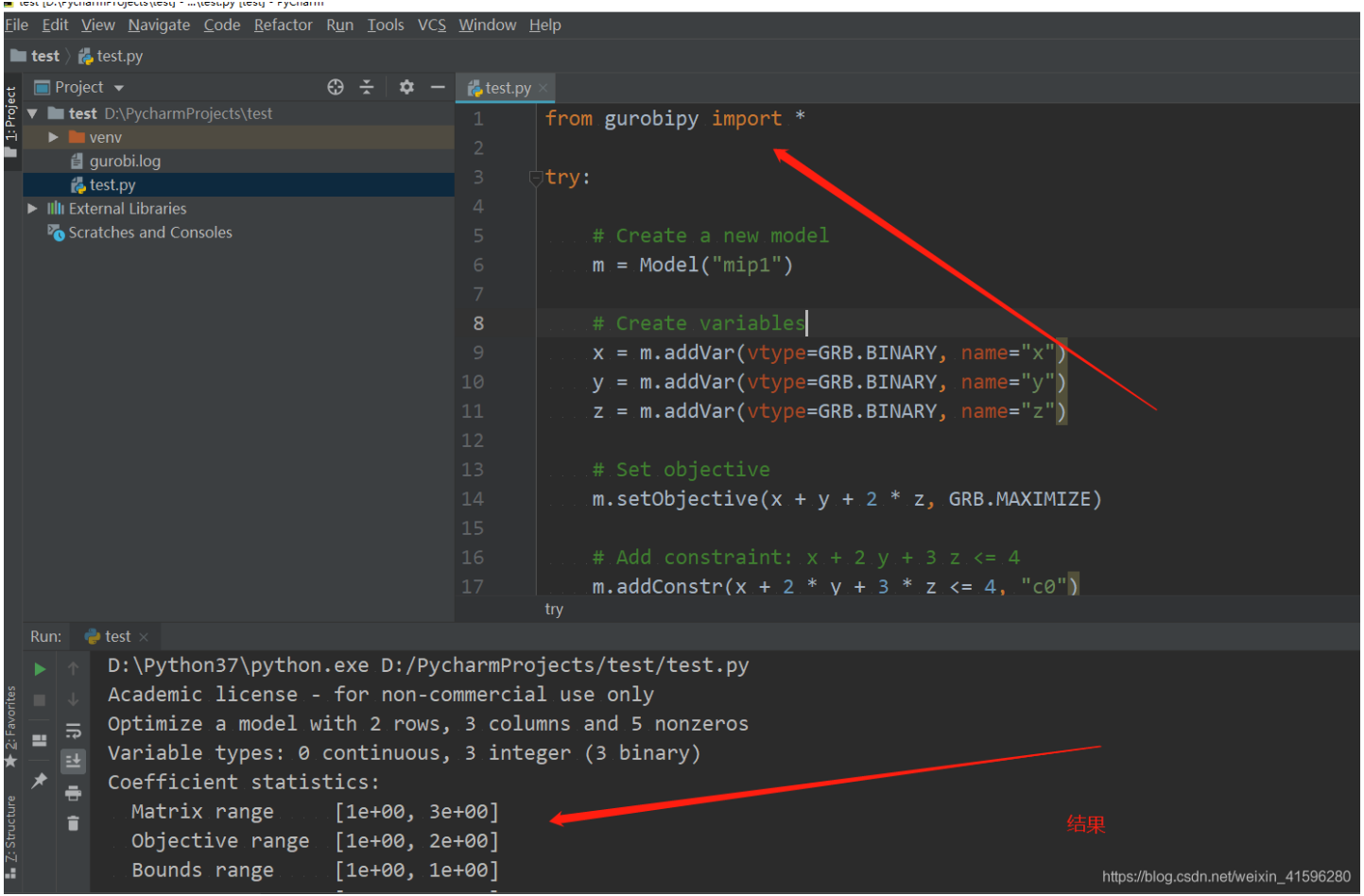
安装方法

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!



安装方法

14.打开编辑器，畅快使用Gurobi吧!



范例演示

线性规划

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

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

```
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！！！