

```
pip install gekko
```

```
Collecting gekko
  Downloading gekko-1.0.2-py3-none-any.whl (12.4 MB)
    | 12.4 MB 4.5 MB/s
Requirement already satisfied: numpy>=1.8 in /usr/local/lib/python3.7/dist-packages (from gekko) (1.21.6)
Installing collected packages: gekko
Successfully installed gekko-1.0.2
```

▼ 2: Linear Equations

$2x+2y=1$ and $3x+2y=0$

```
from gekko import GEKKO
m = GEKKO()          # create GEKKO model
x = m.Var()          # define new variable, default=0
y = m.Var()          # define new variable, default=0
m.Equations([2*x+2*y==1, 3*x+2*y==0]) # equations
m.solve(dis= False)  # solve
print(x.value,y.value) # print solution
```

```
↳ [-1.0] [1.5]
```

▼ 3: Solve Nonlinear Equations

$x+2y=0$ $x^2+y^2=1$

```
m = GEKKO()          # create GEKKO model
x = m.Var(value=0)    # define new variable, initial value=0
y = m.Var(value=1)    # define new variable, initial value=1
m.Equations([x + 2*y==0, x**2+y**2==1]) # equations
m.solve(dis= False)   # solve
print([x.value[0],y.value[0]]) # print solution
```

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[-0.89442724267, 0.44721362133]
```

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