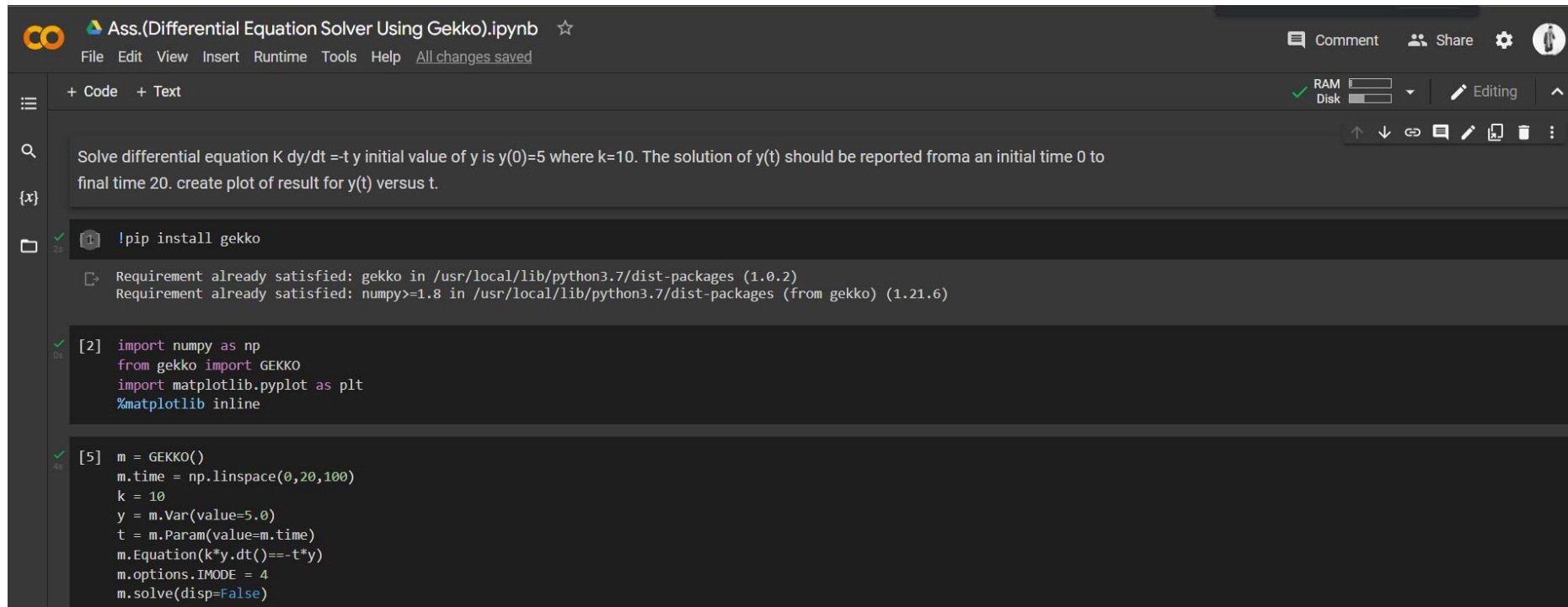


Differential Equation Solver Using Gekko



The screenshot displays a Jupyter Notebook titled "Ass.(Differential Equation Solver Using Gekko).ipynb". The interface includes a top menu bar with options like File, Edit, View, Insert, Runtime, Tools, and Help. On the right, there are buttons for Comment, Share, and a user profile icon. Below the menu, a toolbar shows RAM and Disk usage, an Editing mode indicator, and navigation icons. The notebook content is divided into three cells:

- Text Cell:** Contains the problem statement: "Solve differential equation $K \frac{dy}{dt} = -t y$ initial value of y is $y(0)=5$ where $k=10$. The solution of $y(t)$ should be reported from an initial time 0 to final time 20. create plot of result for $y(t)$ versus t ."
- Code Cell 1:** Executes the command `!pip install gekko`. The output shows that the requirements are already satisfied: `gekko` in `/usr/local/lib/python3.7/dist-packages (1.0.2)` and `numpy>=1.8` in `/usr/local/lib/python3.7/dist-packages (from gekko) (1.21.6)`.
- Code Cell 2:** Imports the necessary libraries: `import numpy as np`, `from gekko import GEKKO`, `import matplotlib.pyplot as plt`, and `%matplotlib inline`.
- Code Cell 3:** Initializes the GEKKO model and sets parameters: `m = GEKKO()`, `m.time = np.linspace(0,20,100)`, `k = 10`, `y = m.Var(value=5.0)`, `t = m.Param(value=m.time)`, `m.Equation(k*y.dt()==-t*y)`, `m.options.IMODE = 4`, and `m.solve(dispatch=False)`.

