Lab1 Qeustion 1 (d)

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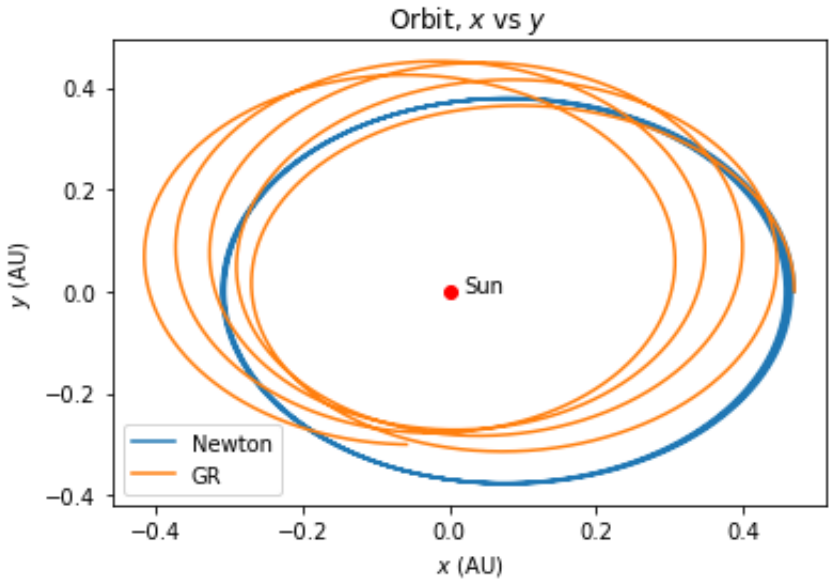
1 Plots



2 Explanation

So I created a new function `Euler_Cromer_GR` with an additional line to define $\alpha = 0.01\text{AU}^2$:

```
a = 0.01 * spc.au**2
```

And I changed the calculation of speed to:

```
vx[i+1] = vx[i] - (1 + a/r**2) * spc.G * M_s * x[i+1] * d_t / r**3
```

for the additional factor $(1 + \frac{\alpha}{r^2})$.
From the plot we can tell that there is a precession happening to Mercury's orbit.