N Body sim

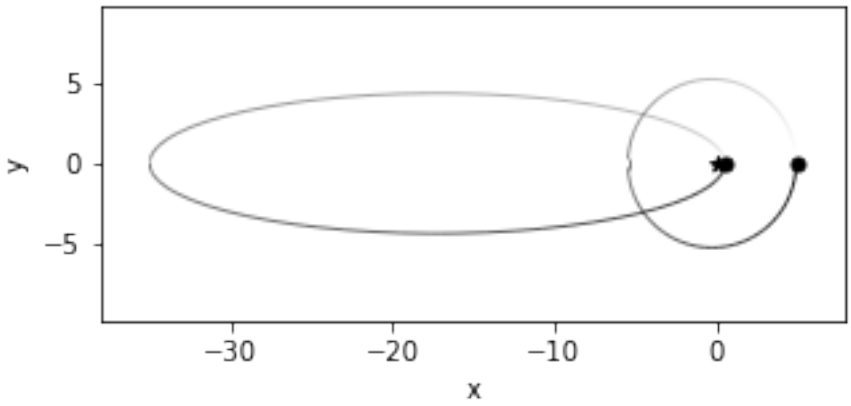
November 7, 2022

[42]:
```
import rebound
import numpy as np
import matplotlib.pyplot as plt

sim = rebound.Simulation()

sim.units = ['mearth', 'day', 'AU']
sim.add(m= 333000) ## the sun at 0,0 coords
sim.add(m=317.8, P=4330.3, e=0.048775) ## jupiter
sim.add(m= 3.6837408053*10**-11, P= 27375, e=.97) ##halley's comet
```

[43]:
```
sim.status()
```

```
---------------------------------
REBOUND version:        3.20.0
REBOUND built on:       Oct 16 2022 22:47:07
Number of particles:    3
Selected integrator:    ias15
Simulation time:        0.0000000000000000e+00
Current timestep:       0.001000
---------------------------------
<rebound.particle.Particle object at 0x7f865a5c43c0, m=333000.0 x=0.0 y=0.0
z=0.0 vx=0.0 vy=0.0 vz=0.0>
<rebound.particle.Particle object at 0x7f865a5c48c0, m=317.8 x=4.947561200233004
y=0.0 z=0.0 vx=0.0 vy=0.007924453800604242 vz=0.0>
<rebound.particle.Particle object at 0x7f865a5c43c0, m=3.6837408053e-11
x=0.538199427550941 y=0.0 z=0.0 vx=0.0 vy=0.03308233120102457 vz=0.0>
---------------------------------
```

[44]:
```
rebound.OrbitPlot(sim)
plt.show()
```


5
0
−5
y
−30
−20
−10
0
x