# Intro - Day 2

Everything for today is posted under day 2 of:
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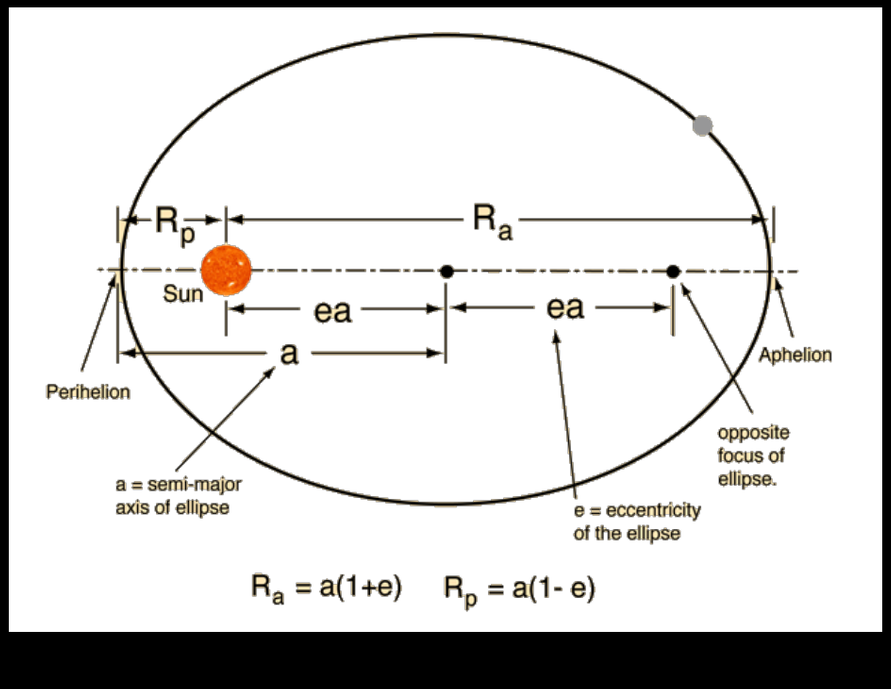


* For the 2-Body problem we are working on compared the analytical and numerical solutions
* First : some hints on indexing….

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```
# loop and numerically integrate
for n in range(1,n_eu):
    r1_old = r_eu[n-1][0,:]
    #r2_old = ...
    #v1_old = ...
    #v2_old = ...
    # v1_new = (acceleration from mass 2)*dt + v1_old
    # v2_new = (acceleration from mass 1)*dt + v2_old
    # r1_new = 1/2*(acceleration from mass 2)*dt*dt + v1_old*dt + r1_old
    # r2_new = 1/2*(acceleration from mass 1)*dt*dt + v2_old*dt + r2_old
    # v_eu.append( np.array( [v1_new, v2_new] ) )
    # r_eu.append( np.array( [r1_new, r2_new] ) )
```

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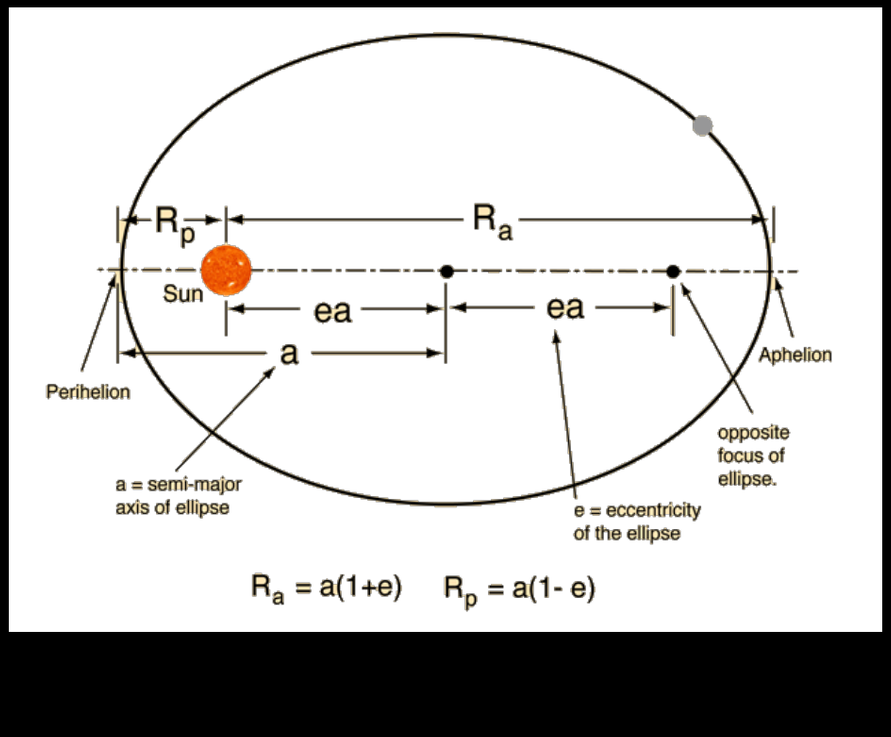


* For the 2-Body problem we are working on compared the analytical and numerical solutions
* First : some hints on indexing….
* Also, for people that have solutions already: (1) what changes the "goodness" of your solution? (2) How are some ways you might quantify the "goodness" of your solution?