Planetary Motion II

i) Finialize last week's program for the planetary motion as discussed in the lecture: Add the computation of the exact acceleration $\vec{F}/m$ to quantify the errors for different N and ε.
Note: You'll find an updated version of `planet.py` in Moodle (be sure to back up your previous one before downloading !)

ii) Then, replace the approximate solution of Kepler's equation, $M = E - \varepsilon \sin E$, by "true" root-finding with Newton's method.
Hint: Copy code from file `findroot.py` into a new function `keplerNewton(t, ex)` inside `planet.py`.

Root-Finding Using the Secant Method

Bi-sectioning and Newton's method have been implemented in `findroot.py` and discussed in the lecture: Add the secant method as a further possibility when f' is not available analytically. Compare with the previous two !

juergen.dreher@rub.de kevin.schoeffler@rub.de