HW9 Problem 4

```
fprintf('\n');
clearvars -except function_list hw_pub toolsPath
close all
CelestialConstants; % import useful constants


r_soi_jupiter = Jupiter.a*(Jupiter.m/Sun.m)^(2/5);
jup_stable_orbit = 0.67*r_soi_jupiter;

r_soi_saturn = Saturn.a*(Saturn.m/Sun.m)^(2/5);
sat_stable_orbit = 0.67*r_soi_saturn;

fprintf(['S/2003 J 2 is within the stable region of Jupiter\n(' ...
    num2str(jup_stable_orbit,'%.0f') ' km), so it is likely to be \n'...
    'stable. Fornjot is within the stable region of Saturn\n(' ...
    num2str(sat_stable_orbit,'%.0f') ' km), so it is also likely to be \n'...
    'stable. Since these satellites are well-within the stable regions,\n'...
    'it is doubtful additional satellites will be discovered outside \n'...
    'this limit. However, other satellites could be found in the same \n'...
    'orbital vicinity.\n'])
```

```
S/2003 J 2 is within the stable region of Jupiter
(32296091 km), so it is likely to be
stable. Fornjot is within the stable region of Saturn
(36614772 km), so it is also likely to be
stable. Since these satellites are well-within the stable regions,
it is doubtful additional satellites will be discovered outside
this limit. However, other satellites could be found in the same
orbital vicinity.
```

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