```
>> mdl = fitlm(P.pl_eqt, P)
Error using classreg.regr.FitObject/selectVariables (line 351)
Response variable must be a numeric vector.

Error in classreg.regr.TermsRegression/selectVariables (line 259)
            model = selectVariables@classreg.regr.ParametricRegression(model);

Error in classreg.regr.FitObject/doFit (line 91)
            model = selectVariables(model);

Error in LinearModel.fit (line 1043)
            model = doFit(model);

Error in fitlm (line 121)
model = LinearModel.fit(X,varargin{:});

>> pl_eqt = P.pl_eqt;
>> mdl = fitlm(pl_eqt, P)
Error using classreg.regr.FitObject/selectVariables (line 351)
Response variable must be a numeric vector.

Error in classreg.regr.TermsRegression/selectVariables (line 259)
            model = selectVariables@classreg.regr.ParametricRegression(model);

Error in classreg.regr.FitObject/doFit (line 91)
            model = selectVariables(model);

Error in LinearModel.fit (line 1043)
            model = doFit(model);

Error in fitlm (line 121)
model = LinearModel.fit(X,varargin{:});

>> mdl = fitlm(P, 'pl_eqt~sy_snum+sy_pnum+discoverymethod+disc_year+st_mass+st_rad')
Warning: Regression design matrix is rank deficient to within machine precision.
> In classreg.regr/CompactTermsRegression/checkDesignRank (line 35)
In LinearModel.fit (line 1048)
In fitlm (line 121)

mdl =


Linear regression model:
    pl_eqt ~ 1 + sy_snum + sy_pnum + discoverymethod + disc_year + st_rad + st_mass

Estimated Coefficients:
                                                   Estimate      SE       tStat↙
pValue
                                                   ________    ______    ________↙
__________
```

```
    (Intercept)                                    0          0         NaN↙
NaN
    sy_snum                                  0.74079     34.089    0.021731↙
0.98267
    sy_pnum                                  -71.402     11.784     -6.0593↙
2.1606e-09
    discoverymethod_Disk Kinematics                0          0         NaN↙
NaN
    discoverymethod_Eclipse Timing Variations      0          0         NaN↙
NaN
    discoverymethod_Imaging                    24319     8891.5       2.735↙
0.006384
    discoverymethod_Microlensing                   0          0         NaN↙
NaN
    discoverymethod_Orbital Brightness Modulation  24602      8901.4      2.7638↙
0.0058523
    discoverymethod_Pulsar Timing                  0          0         NaN↙
NaN
    discoverymethod_Pulsation Timing Variations    0          0         NaN↙
NaN
    discoverymethod_Radial Velocity            23631     8909.8      2.6522↙
0.0081655
    discoverymethod_Transit                    23917     8908.3      2.6848↙
0.0074165
    discoverymethod_Transit Timing Variations      0          0         NaN↙
NaN
    discoverymethod_Timing Variation           23299     8905.5      2.6162↙
0.0090688
    disc_year                                -11.732     4.4132     -2.6583↙
0.0080205
    st_rad                                   -15.212     40.473    -0.37586↙
0.70713
    st_mass                                   1037.2     70.551      14.701↙
3.4226e-43


Number of observations: 769, Error degrees of freedom: 759
Root Mean Squared Error: 380
R-squared: 0.531,  Adjusted R-Squared: 0.525
F-statistic vs. constant model: 95.4, p-value = 2.12e-118
>> mdl = fitlm(P,↙
'pl_eqt~sy_snum+sy_pnum+discoverymethod+disc_year+pl_orbper+pl_orbsmax+pl_rade+pl_bmass↙
e+pl_orbeccen+pl_insol+st_teff+st_mass+st_rad')
Warning: Regression design matrix is rank deficient to within machine precision.
> In classreg.regr/CompactTermsRegression/checkDesignRank (line 35)
In LinearModel.fit (line 1048)
In fitlm (line 121)

mdl =
```

```
Linear regression model:
    pl_eqt ~ 1 + sy_snum + sy_pnum + discoverymethod + disc_year + pl_orbper +↙
pl_orbsmax + pl_rade + pl_bmasse + pl_orbeccen + pl_insol + st_teff + st_rad + st_mass

Estimated Coefficients:
                                                   Estimate        SE         tStat↙
pValue
                                                   ________    _________    ________↙
__________

    (Intercept)                                       17102        19922     0.85848↙
0.39279
    sy_snum                                         -28.899        44.68    -0.6468↙
0.51932
    sy_pnum                                         -11.392        17.247   -0.66053↙
0.51051
    discoverymethod_Disk Kinematics                       0            0         NaN↙
NaN
    discoverymethod_Eclipse Timing Variations             0            0         NaN↙
NaN
    discoverymethod_Imaging                               0            0         NaN↙
NaN
    discoverymethod_Microlensing                          0            0         NaN↙
NaN
    discoverymethod_Orbital Brightness Modulation         0            0         NaN↙
NaN
    discoverymethod_Pulsar Timing                         0            0         NaN↙
NaN
    discoverymethod_Pulsation Timing Variations           0            0         NaN↙
NaN
    discoverymethod_Radial Velocity                 -55.244        81.145    -0.6808↙
0.49765
    discoverymethod_Transit                               0            0         NaN↙
NaN
    discoverymethod_Transit Timing Variations             0            0         NaN↙
NaN
    discoverymethod_Timing Variation                      0            0         NaN↙
NaN
    disc_year                                       -8.5026        9.8499   -0.86321↙
0.39019
    pl_orbper                                        2.1272       0.32892     6.4672↙
4.3033e-09
    pl_orbsmax                                      -1983.5        235.82     -8.411↙
4.0688e-13
    pl_rade                                          19.546        5.0304     3.8856↙
0.0001888
    pl_bmasse                                     -0.026747      0.031683   -0.84421↙
0.40067
```

```
    pl_orbeccen                                  -67.234       213.51    -0.31491↙
0.75352
    pl_insol                                    0.035805    0.0058585      6.1117↙
2.1653e-08
    st_teff                                      0.14914     0.066207      2.2527↙
0.026579
    st_rad                                        218.33       105.32       2.073↙
0.040879
    st_mass                                       170.98       295.03     0.57952↙
0.56361


Number of observations: 119, Error degrees of freedom: 105
Root Mean Squared Error: 200
R-squared: 0.899,  Adjusted R-Squared: 0.887
F-statistic vs. constant model: 72, p-value = 3.85e-46
>> mdl = fitlm(P,↙
'pl_eqt~discoverymethod+disc_year+pl_orbper+pl_orbsmax+pl_rade+pl_bmasse+pl_orbeccen+pl↙
_insol+st_teff+st_mass+st_rad')
Warning: Regression design matrix is rank deficient to within machine precision.
> In classreg.regr/CompactTermsRegression/checkDesignRank (line 35)
In LinearModel.fit (line 1048)
In fitlm (line 121)

mdl =


Linear regression model:
    pl_eqt ~ 1 + discoverymethod + disc_year + pl_orbper + pl_orbsmax + pl_rade +↙
pl_bmasse + pl_orbeccen + pl_insol + st_teff + st_rad + st_mass

Estimated Coefficients:
                                                Estimate        SE         tStat↙
pValue
                                                ________    _________    ________↙
_________

    (Intercept)                                    11520        17943     0.64204↙
0.52236
    discoverymethod_Disk Kinematics                    0            0         NaN↙
NaN
    discoverymethod_Eclipse Timing Variations          0            0         NaN↙
NaN
    discoverymethod_Imaging                            0            0         NaN↙
NaN
    discoverymethod_Microlensing                       0            0         NaN↙
NaN
    discoverymethod_Orbital Brightness Modulation      0            0         NaN↙
NaN
    discoverymethod_Pulsar Timing                      0            0         NaN↙
```

```
NaN
    discoverymethod_Pulsation Timing Variations              0            0         NaN↙
NaN
    discoverymethod_Radial Velocity                    -62.963       77.865    -0.80862↙
0.42071
    discoverymethod_Transit                                  0            0         NaN↙
NaN
    discoverymethod_Transit Timing Variations                0            0         NaN↙
NaN
    discoverymethod_Timing Variation                         0            0         NaN↙
NaN
    disc_year                                           -5.7897       8.8931    -0.65103↙
0.51656
    pl_orbper                                            2.1621      0.32458      6.6612↙
1.644e-09
    pl_orbsmax                                          -2002.3        233.4     -8.5785↙
1.5592e-13
    pl_rade                                              20.762        4.604      4.5095↙
1.8204e-05
    pl_bmasse                                         -0.031503     0.031026     -1.0154↙
0.31246
    pl_orbeccen                                         -50.176       211.31    -0.23745↙
0.81281
    pl_insol                                           0.034159    0.0054971      6.2141↙
1.2922e-08
    st_teff                                             0.15631     0.064943      2.4068↙
0.017984
    st_rad                                               212.34       102.87      2.0641↙
0.041682
    st_mass                                              184.18       292.54      0.6296↙
0.53044


Number of observations: 119, Error degrees of freedom: 107
Root Mean Squared Error: 199
R-squared: 0.898,  Adjusted R-Squared: 0.888
F-statistic vs. constant model: 86, p-value = 6.49e-48
>> mdl = fitlm(P,↙
'pl_eqt~discoverymethod+disc_year+pl_orbper+pl_orbsmax+pl_rade+pl_bmasse+pl_orbeccen+st↙
_teff+st_mass+st_rad')
Warning: Regression design matrix is rank deficient to within machine precision.
> In classreg.regr/CompactTermsRegression/checkDesignRank (line 35)
In LinearModel.fit (line 1048)
In fitlm (line 121)

mdl =


Linear regression model:
    pl_eqt ~ 1 + discoverymethod + disc_year + pl_orbper + pl_orbsmax + pl_rade +↙
```

```
pl_bmasse + pl_orbeccen + st_teff + st_rad + st_mass

Estimated Coefficients:
                                                    Estimate       SE        tStat↙
pValue
                                                    ________    ________    ________↙
__________

    (Intercept)                                            0           0         NaN↙
NaN
    discoverymethod_Disk Kinematics                        0           0         NaN↙
NaN
    discoverymethod_Eclipse Timing Variations              0           0         NaN↙
NaN
    discoverymethod_Imaging                                0           0         NaN↙
NaN
    discoverymethod_Microlensing                           0           0         NaN↙
NaN
    discoverymethod_Orbital Brightness Modulation          0           0         NaN↙
NaN
    discoverymethod_Pulsar Timing                          0           0         NaN↙
NaN
    discoverymethod_Pulsation Timing Variations            0           0         NaN↙
NaN
    discoverymethod_Radial Velocity                   330.61      8281.6     0.03992↙
0.96818
    discoverymethod_Transit                           298.11      8277.2    0.036015↙
0.97129
    discoverymethod_Transit Timing Variations              0           0         NaN↙
NaN
    discoverymethod_Timing Variation                       0           0         NaN↙
NaN
    disc_year                                      -0.23945      4.0966    -0.05845↙
0.95342
    pl_orbper                                       3.3395     0.24773      13.481↙
4.2977e-34
    pl_orbsmax                                      -2892.9      175.23     -16.509↙
1.7222e-46
    pl_rade                                          20.639      3.1165      6.6223↙
1.2169e-10
    pl_bmasse                                      -0.01828    0.020859    -0.87636↙
0.38139
    pl_orbeccen                                     -344.78      98.021     -3.5175↙
0.00048871
    st_teff                                         0.17128     0.04655      3.6794↙
0.00026771
    st_rad                                           119.97      65.734      1.8251↙
0.06877
    st_mass                                          360.04      192.09      1.8744↙
0.061653
```

```
Number of observations: 399, Error degrees of freedom: 388
Root Mean Squared Error: 252
R-squared: 0.788,  Adjusted R-Squared: 0.782
F-statistic vs. constant model: 144, p-value = 7.69e-124
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_bmasse+pl_orbeccen+st_teff+st_mass+st_rad')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_bmasse + pl_orbeccen + st_teff +↙
st_rad + st_mass

Estimated Coefficients:
                   Estimate        SE        tStat        pValue
                   _________    ________    ________    __________

    (Intercept)      -181.56      124.38     -1.4598       0.14515
    pl_orbper         3.3316     0.24531      13.581    1.1317e-34
    pl_orbsmax       -2885.5      173.18     -16.661    1.8687e-47
    pl_rade           20.488      3.0516      6.7139    6.7081e-11
    pl_bmasse      -0.018438    0.020752    -0.88849       0.37483
    pl_orbeccen       -344.4      97.504     -3.5321    0.00046154
    st_teff          0.17084    0.046155      3.7014    0.00024522
    st_rad            118.68      65.494       1.812      0.070752
    st_mass           362.63      190.77      1.9008      0.058064


Number of observations: 399, Error degrees of freedom: 390
Root Mean Squared Error: 251
R-squared: 0.787,  Adjusted R-Squared: 0.783
F-statistic vs. constant model: 181, p-value = 4.59e-126
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass+st_rad')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_rad +↙
st_mass

Estimated Coefficients:
                   Estimate       SE        tStat       pValue
                   _________    ________    _______    __________

    (Intercept)    -186.78       115.17    -1.6219       0.10557
```

```
    pl_orbper       3.1545      0.22207     14.205    8.3148e-38
    pl_orbsmax     -2717.3       153.58    -17.693     5.347e-53
    pl_rade         21.516       2.7337     7.8706     2.907e-14
    pl_orbeccen    -336.65       91.616    -3.6746    0.00026841
    st_teff        0.17138     0.043498     3.9399    9.5131e-05
    st_rad          110.11       62.204     1.7702      0.077412
    st_mass         344.93       180.89     1.9069      0.057204


Number of observations: 437, Error degrees of freedom: 429
Root Mean Squared Error: 247
R-squared: 0.803,  Adjusted R-Squared: 0.799
F-statistic vs. constant model: 249, p-value = 9.42e-147
>> mdl = fitlm(P, 'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_mass

Estimated Coefficients:
                   Estimate       SE        tStat       pValue
                   ________    ________    _______    __________

    (Intercept)    -124.58       109.95    -1.1331       0.25781
    pl_orbper       3.2142      0.22004     14.607    1.5821e-39
    pl_orbsmax     -2731.7       153.75    -17.767     2.329e-53
    pl_rade         21.538       2.7405     7.8592    3.1336e-14
    pl_orbeccen    -331.33       91.793    -3.6095    0.00034289
    st_teff        0.13936     0.039657     3.5141    0.00048797
    st_mass         580.97       122.53     4.7414    2.8907e-06


Number of observations: 437, Error degrees of freedom: 430
Root Mean Squared Error: 247
R-squared: 0.801,  Adjusted R-Squared: 0.798
F-statistic vs. constant model: 289, p-value = 2.52e-147
>> mdl = fitlm(P, 'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+st_teff+st_mass')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + st_teff + st_mass

Estimated Coefficients:
                   Estimate       SE        tStat        pValue
                   ________    ________    ________    __________
```

```
    (Intercept)    -40.739       87.084    -0.46782       0.64006
    pl_orbper        3.725      0.20667      18.024    8.3472e-60
    pl_orbsmax     -3094.2       140.51     -22.022     8.321e-82
    pl_rade          22.29       2.1844      10.204    7.2359e-23
    st_teff        0.10412     0.031798      3.2743     0.0011123
    st_mass         670.08       102.42      6.5426    1.1782e-10


Number of observations: 696, Error degrees of freedom: 690
Root Mean Squared Error: 260
R-squared: 0.776,  Adjusted R-Squared: 0.774
F-statistic vs. constant model: 477, p-value = 3.36e-221
>> mdl = fitlm(P, 'pl_eqt~+pl_orbsmax+pl_rade+st_teff+st_mass')
Error using classreg.regr.FormulaProcessor>parseStr (line 663)
Unable to understand the character vector or string scalar↙
'pl_eqt~+pl_orbsmax+pl_rade+st_teff+st_mass'.

Error in classreg.regr.FormulaProcessor (line 374)
               [f.str,f.tree] = parseStr(f,modelSpec);

Error in classreg.regr.LinearFormula (line 48)
            f = f@classreg.regr.FormulaProcessor(varargin{:});

Error in classreg.regr.TermsRegression.createFormula (line 709)
                    formula = classreg.regr.LinearFormula(modelDef,varNames,'',↙
intercept,link);

Error in LinearModel.createFormula (line 1054)
            formula = classreg.regr.TermsRegression.createFormula(supplied,modelDef,↙
...

Error in LinearModel.fit (line 1036)
            model.Formula = LinearModel.createFormula(supplied,modelDef,X, ...

Error in fitlm (line 121)
model = LinearModel.fit(X,varargin{:});

>> mdl = fitlm(P, 'pl_eqt~pl_orbsmax+pl_rade+st_teff+st_mass')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbsmax + pl_rade + st_teff + st_mass

Estimated Coefficients:
                   Estimate       SE        tStat        pValue
                   ________    ________    ________    __________

    (Intercept)     -58.449      113.09    -0.51684       0.60544
```

```
    pl_orbsmax      -10.739      3.8252     -2.8074     0.0051348
    pl_rade          34.557      2.8418       12.16    5.6548e-31
    st_teff        0.057226    0.041598      1.3757       0.16936
    st_mass          614.94      136.34      4.5103    7.6026e-06


Number of observations: 698, Error degrees of freedom: 693
Root Mean Squared Error: 351
R-squared: 0.591,  Adjusted R-Squared: 0.588
F-statistic vs. constant model: 250, p-value = 7.13e-133
>> mdl = fitlm(P, 'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+st_teff+st_mass')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + st_teff + st_mass

Estimated Coefficients:
                   Estimate       SE        tStat        pValue
                   ________    ________    ________    __________

    (Intercept)    -40.739       87.084    -0.46782       0.64006
    pl_orbper        3.725      0.20667      18.024    8.3472e-60
    pl_orbsmax     -3094.2       140.51     -22.022     8.321e-82
    pl_rade          22.29       2.1844      10.204    7.2359e-23
    st_teff        0.10412     0.031798      3.2743     0.0011123
    st_mass         670.08       102.42      6.5426    1.1782e-10


Number of observations: 696, Error degrees of freedom: 690
Root Mean Squared Error: 260
R-squared: 0.776,  Adjusted R-Squared: 0.774
F-statistic vs. constant model: 477, p-value = 3.36e-221
>> mdl = fitlm(P, 'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_mass

Estimated Coefficients:
                   Estimate       SE        tStat       pValue
                   ________    ________    _______    __________

    (Intercept)    -124.58       109.95    -1.1331       0.25781
    pl_orbper       3.2142      0.22004     14.607    1.5821e-39
    pl_orbsmax     -2731.7       153.75    -17.767     2.329e-53
    pl_rade         21.538       2.7405     7.8592    3.1336e-14
```

```
    pl_orbeccen    -331.33       91.793    -3.6095    0.00034289
    st_teff        0.13936     0.039657     3.5141    0.00048797
    st_mass         580.97       122.53     4.7414    2.8907e-06


Number of observations: 437, Error degrees of freedom: 430
Root Mean Squared Error: 247
R-squared: 0.801,  Adjusted R-Squared: 0.798
F-statistic vs. constant model: 289, p-value = 2.52e-147
>> plotResiduals(mdl)
>> plotResiduals(mdl, 'probability')
>> plotResiduals(mdl, 'fitted')
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass+pl_orbsmax^2')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_mass +↙
pl_orbsmax^2

Estimated Coefficients:
                    Estimate       SE        tStat       pValue
                    ________    ________    _______    __________

    (Intercept)     -105.14       105.08    -1.0006        0.3176
    pl_orbper         7.714      0.72448     10.648    1.1946e-23
    pl_orbsmax      -3909.2       233.44    -16.747    8.4173e-49
    pl_rade          18.858       2.6505     7.1147    4.7353e-12
    pl_orbeccen     -284.47       87.992    -3.2329     0.0013201
    st_teff         0.13253     0.037901     3.4968    0.00051995
    st_mass           669.4       117.85       5.68    2.4872e-08
    pl_orbsmax^2    -571.31       88.026    -6.4903    2.3693e-10


Number of observations: 437, Error degrees of freedom: 429
Root Mean Squared Error: 236
R-squared: 0.819,  Adjusted R-Squared: 0.816
F-statistic vs. constant model: 277, p-value = 8.87e-155
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass+pl_orbsmax^2+pl_orbsma↙
x^3')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_mass +↙
pl_orbsmax^2 + pl_orbsmax^3
```

```
Estimated Coefficients:
                    Estimate      SE        tStat        pValue
                    ________    _______    ________    __________

    (Intercept)      -98.578      99.444    -0.99129        0.3221
    pl_orbper         3.9264     0.86664      4.5306    7.6397e-06
    pl_orbsmax       -4190.3      224.38     -18.675    2.3246e-57
    pl_rade           16.201      2.5356      6.3894    4.3523e-10
    pl_orbeccen      -249.96      83.409     -2.9968     0.0028872
    st_teff          0.14646     0.03592      4.0774    5.4302e-05
    st_mass           646.92      111.57      5.7984    1.3021e-08
    pl_orbsmax^2      1332.3      279.15      4.7727    2.4985e-06
    pl_orbsmax^3     -260.18      36.415     -7.1448    3.9067e-12


Number of observations: 437, Error degrees of freedom: 428
Root Mean Squared Error: 224
R-squared: 0.838,  Adjusted R-Squared: 0.835
F-statistic vs. constant model: 277, p-value = 5.54e-164
>> plotResiduals(mdl, 'fitted')
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass+pl_orbsmax^3')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_mass +↙
pl_orbsmax^2 + pl_orbsmax^3

Estimated Coefficients:
                    Estimate      SE        tStat        pValue
                    ________    _______    ________    __________

    (Intercept)      -98.578      99.444    -0.99129        0.3221
    pl_orbper         3.9264     0.86664      4.5306    7.6397e-06
    pl_orbsmax       -4190.3      224.38     -18.675    2.3246e-57
    pl_rade           16.201      2.5356      6.3894    4.3523e-10
    pl_orbeccen      -249.96      83.409     -2.9968     0.0028872
    st_teff          0.14646     0.03592      4.0774    5.4302e-05
    st_mass           646.92      111.57      5.7984    1.3021e-08
    pl_orbsmax^2      1332.3      279.15      4.7727    2.4985e-06
    pl_orbsmax^3     -260.18      36.415     -7.1448    3.9067e-12


Number of observations: 437, Error degrees of freedom: 428
Root Mean Squared Error: 224
R-squared: 0.838,  Adjusted R-Squared: 0.835
F-statistic vs. constant model: 277, p-value = 5.54e-164
```

```
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_orbeccen+st_teff+st_mass+pl_orbsmax^3')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_orbeccen + st_teff + st_mass +↙
pl_orbsmax^2 + pl_orbsmax^3

Estimated Coefficients:
                    Estimate       SE        tStat       pValue
                    ________    ________    _______    __________

    (Intercept)     -155.87       111.65    -1.3961       0.16335
    pl_orbper         2.522      0.57623     4.3767    1.4853e-05
    pl_orbsmax      -2410.7       168.55    -14.302    8.5911e-39
    pl_orbeccen     -300.46       99.943    -3.0063     0.0027855
    st_teff         0.13306     0.039478     3.3705    0.00081214
    st_mass          830.22          117     7.0962    4.7417e-12
    pl_orbsmax^2      140.9       91.685     1.5368       0.12501
    pl_orbsmax^3     -12.25       3.0089    -4.0713    5.4831e-05


Number of observations: 479, Error degrees of freedom: 471
Root Mean Squared Error: 282
R-squared: 0.755,  Adjusted R-Squared: 0.751
F-statistic vs. constant model: 207, p-value = 2.07e-139
>> mdl = fitlm(P,↙
'pl_eqt~pl_orbper+pl_orbsmax+pl_rade+pl_orbeccen+st_teff+st_mass+pl_orbsmax^3')

mdl =


Linear regression model:
    pl_eqt ~ 1 + pl_orbper + pl_orbsmax + pl_rade + pl_orbeccen + st_teff + st_mass +↙
pl_orbsmax^2 + pl_orbsmax^3

Estimated Coefficients:
                    Estimate      SE        tStat        pValue
                    ________    _______    ________    __________

    (Intercept)     -98.578       99.444    -0.99129        0.3221
    pl_orbper        3.9264      0.86664      4.5306    7.6397e-06
    pl_orbsmax      -4190.3       224.38     -18.675    2.3246e-57
    pl_rade          16.201       2.5356      6.3894    4.3523e-10
    pl_orbeccen     -249.96       83.409     -2.9968     0.0028872
    st_teff         0.14646      0.03592      4.0774    5.4302e-05
    st_mass          646.92       111.57      5.7984    1.3021e-08
    pl_orbsmax^2     1332.3       279.15      4.7727    2.4985e-06
```

```
    pl_orbsmax^3    -260.18      36.415     -7.1448    3.9067e-12


Number of observations: 437, Error degrees of freedom: 428
Root Mean Squared Error: 224
R-squared: 0.838,  Adjusted R-Squared: 0.835
F-statistic vs. constant model: 277, p-value = 5.54e-164
>> get(0,'Diary')

ans =

    'off'

>>
```