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In [123]:
runfile('/Users/haileykryszewski/Documents/astrHwk1.py',
wdir='/Users/haileykryszewski/Documents')
Homework 1: Hailey Kryszewski 124001456
Question 1:

Mean Median and Mode for FE_H
The mean value of FE_H is:  -0.5416666666666666
The median value of FE_H is:  -0.55
The mode value of FE_H is:  -0.6
The standard deviation of FE_H is:  0.11202836520243023
Mean Median and Mode for oRV
The mean value of oRV is:  -5.418421052631579
The median value of oRV is:  -5.35
The mode value of oRV is:  -5.2
The standard deviation of oRV is:  1.1253480574273982
Mean Median and Mode for PLX
The mean value of PLX is:  0.088125
The median value of PLX is:  0.089
The mode value of PLX is:  0.089
The standard deviation of PLX is:  0.0055917669070569415
Mean Median and Mode for PM
The mean value of PLX is:  -1097
The median value of PLX is:  -1095.5
The mode value of PLX is:  -1093
The standard deviation of PLX is:  8.342661445845684
Mean Median and Mode for Velocities
The mean value of PLX is:  -5.14953488372093
The median value of PLX is:  -5.3
The mode value of PLX is:  -5.2
The standard deviation of PLX is:  1.8825779608069508
Question 2:

The fe_h value represents the metallicity. In other words, this
value represents what part of the mass is not Hydrogen or Helium.

The oRV value represents the radial velocity of the star in
orbit. It is the value of the rate of change in distance of a
star or celestial body and a point.

The PLX value represents the parallax to a given star.

The PM value represents the proper motion of the star is the
movement of a closer star across the sky in relation to further
away stars.
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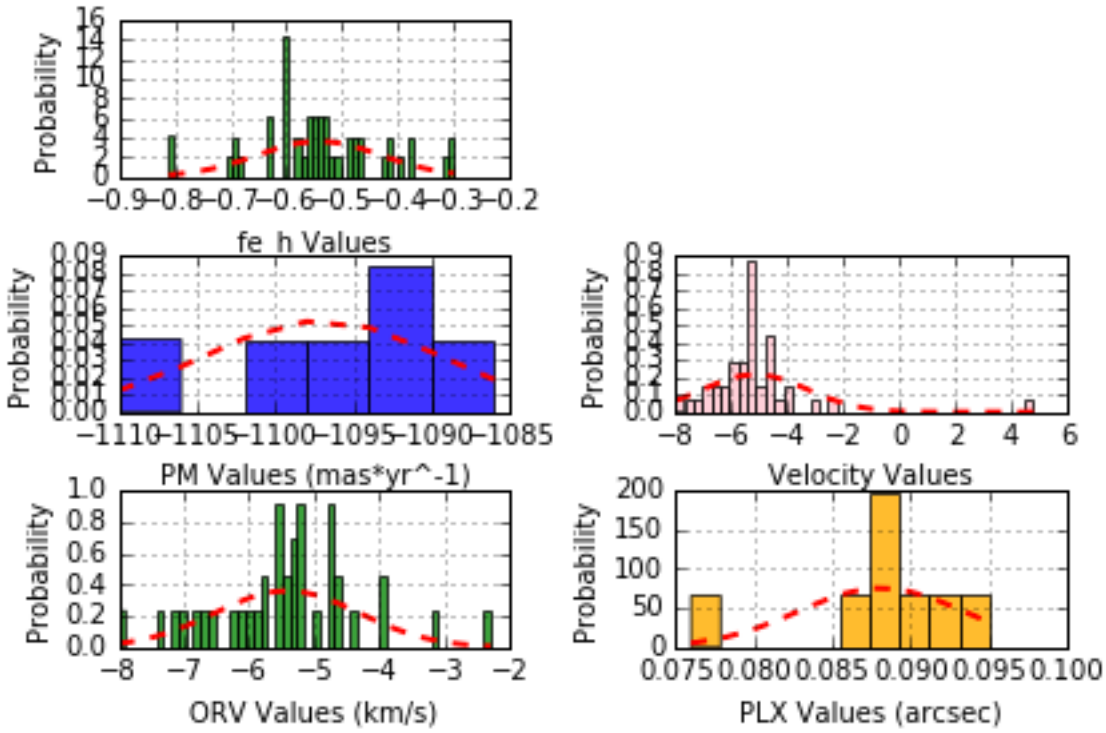
The velocities represent how fast the star is moving.

Question 3:

The sample variance of PM is 69.6
The population variance of PM is 58

Python defaults to the sample variance.

Question 4 and 5:



The data appears to follow a normal distribution.

Question 6
Assuming the same astronomer using the same telescope, the statistical error will result from the a difference of the amount of measurements taken. For example, the fe_h list of values has 48 elements where as the PLX list only has 8. This is because fe_h has a broader a base of values to give a more accurate distribution. In order of statistical error from most statistically error prone to least statistically error prone is PM, PLX, oRV, Velocities, fe_h. The systematic error of the system is much easier to predict since it is the same astronomer and the same instrument.

In [**124**]: