

Reading

- BPS Chapter 2.

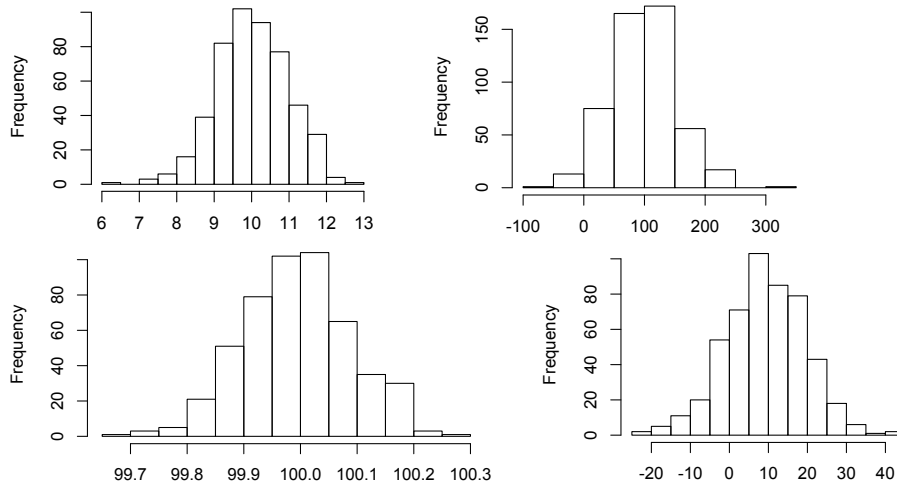
Exercises

BPS Chapter 2 # 25, 28, 38, 39, 40, 42, 44*, 45*, 46*, 48*

* Use R for these problems.

Problem A

For each of these histograms, estimate the mean and standard deviation:



R Project Stars

This project uses the `stars.csv` file containing data on the 300 brightest stars in the night sky. Variables in this data frame are:

<code>Bayer.name</code>	The "Bayer" name of the star
<code>Spectral.type</code>	The type of star, which indicates both temperature and color. From hottest to coolest, the types are: W, O, B, A, F, G, K, M.
<code>Visual.mag</code>	The brightness of the star as visible in Earth's sky. Brighter stars are <i>lower</i> magnitude.
<code>Absolute.mag</code>	The brightness of the star to an observer near that star. Brighter stars are <i>lower</i> magnitude.
<code>Distance</code>	The star's distance from Earth, in light years.

1. Which star is the closest to Earth? Which star is the brightest as visible in Earth's sky? Which star is actually the brightest on an absolute scale?
2. Make a histogram of `Absolute.mag`, and describe the distribution.
3. Make a graphical chart that shows the distribution `Spectral.type` in this sample of stars. Put the types in order, W through M. If you're feeling ambitious, color the types using the `col` option with `heat.colors`. Print your chart
4. Make a boxplot of `Absolute.mag` split into categories by `Spectral.type` and print it. What's going on with type W? Ignoring type W, what type is the brightest (absolute magnitude)? Explain your choice.