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STS 98  
Assignment 2

### USDA Food Price Report

1. The dataset covers a range of seven years, including 2004 through 2010. Within this range, no years are missing.

Functions Used: `range()`, `table()`

2. The dataset includes information about 54 food groups. Not every single food group contains the same number of price estimates, even though many food groups contain 980 estimates.

Functions Used: `length()`, `table()`

3. In the first quarter of 2010, the San Antonio market had the cheapest yogurt price overall. The fat content of the yogurt **does** make a difference. The San Antonio market had the cheapest price for low fat yogurt, while the North Pacific market had the cheapest price for regular fat yogurt.

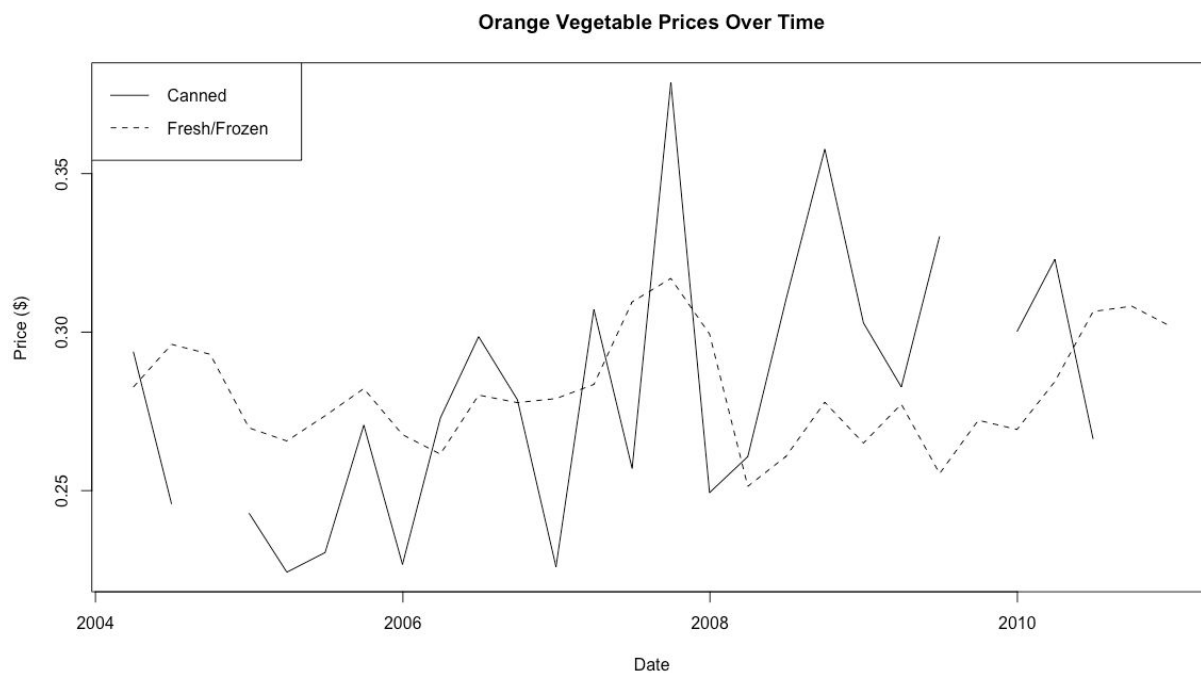
Functions Used: `subset()`, `which.min()`

4. In the first quarter of 2010, Urban New York (NY) had the most expensive yogurt. Frankly, I'm not surprised, since the cost of living in New York is notoriously expensive compared to many other areas of the country. This regional difference is reflected in higher prices for common goods, such as yogurt. Furthermore, many food retailers cater specifically to the high-income population in Urban NY, contributing to this trend.

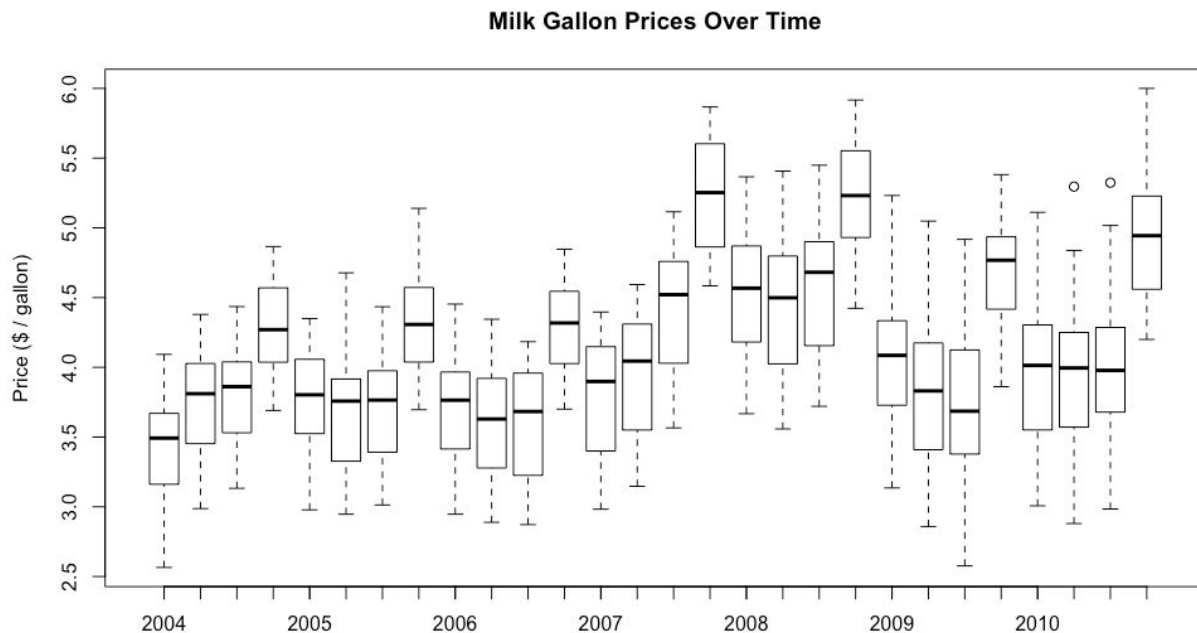
Functions Used: `subset()`, `which.max()`

5. First and foremost, the canned orange vegetable data is incomplete - there exist two gaps of missing price information, as evidenced by discontinuity in the solid line on the graph. Therefore, any conclusions drawn from this particular dataset cannot be of absolute certainty. As such, the following interpretations are based solely on the data that does exist. The cheapest source of orange vegetables alternated between canned and fresh/frozen during 2004 through 2010. For much of 2004 through 2005, canned orange vegetables were least expensive, but its price temporarily spiked in 2006, making canned sources more expensive than fresh/frozen sources. In 2008, however, the price of canned orange vegetables became more expensive than fresh/frozen, lasting until late 2010.

On average, fresh/frozen orange vegetables were slightly cheaper than their canned alternatives, by a difference of \$0.01/100g. Fresh/frozen orange vegetables were also much more stable in price (s.d = 0.017) than canned orange vegetables (s.d. = 0.041). However, canned orange vegetables had the lowest minimum price in absolute terms (\$0.22/100g), less than the minimum price of fresh/frozen orange vegetables (\$0.25/100g). Nevertheless, canned orange vegetables also had the highest maximum price (\$0.387/100g), larger than the maximum price of fresh/frozen vegetables (\$0.316/100g).



6. The milk gallon prices fluctuated in a cyclical pattern, with annual peaks usually occurring in December. From 2007 through 2008, milk prices were elevated significantly higher than usual in all quarters. This occurred in tandem with the [World Food Crisis](#) of 2008, a period in which global food prices were alarmingly unstable and increased rapidly. According to a [CNNMoney Report](#) from 2008, sharply rising costs of milk production input factors, especially that of oil and corn (used to feed cows), constricted the available supply and served as the underlying cause for milk's elevated market price in the United States during this timeframe.



7. The mean price for ice cream during 2005 through 2010 was higher in the west coast (\$0.379) than in the east coast (\$0.349). Ice cream's median price during the same date range was also higher in the west coast (\$0.378) than in the east coast (\$0.349). However, ice cream prices had more variability in the east coast (s.d. = 0.044) than in the west coast (s.d. = 0.036) during the same date range.

Location	Mean Price (\$)	Median Price (\$)	Standard Deviation
East Coast	0.349	0.349	0.044
West Coast	0.379	0.378	0.036

Functions Used: mean( ), median( ), sd( )

Sources Cited:

Chernoff, Allan. "Forget Gas: Get Ready for \$4 a Gallon Milk." CNNMoney. Cable News Network, 2008. Web. 17 Apr. 2016.

<[http://money.cnn.com/2008/05/02/news/economy/milk\\_prices/](http://money.cnn.com/2008/05/02/news/economy/milk_prices/)>.

"The World Food Crisis." The New York Times. The New York Times, 2008. Web. 17 Apr. 2016. <<http://www.nytimes.com/2008/04/10/opinion/10thu1.html>>.