

ST201 Tutorial Sheet

My Code:

```
R
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
ST203_Section6_rcode.R+ ST201 Practice Tutorial.R+
Run Source
1 popIreland <- readRDS("~/SharedFiles/ST201/popIreland.rds")
2 popIreland
3
4
5
6 mean2016 <- mean(popIreland$pop_2016)
7 median2016 <- median(popIreland$pop_2016)
8 sd2016 <- sd(popIreland$pop_2016)
9
10 mean2011 <- mean(popIreland$pop_2011)
11 median2011 <- median(popIreland$pop_2011)
12 sd2011 <- sd(popIreland$pop_2011)
13
14 mean2016
15 mean2011
16 median2016
17 median2011
18 sd2016
19 sd2011
20
21 BP2016 <- boxplot(popIreland$pop_2016, xlab = "2016", ylab = "Population (in thousands)")
22 BP2011 <- boxplot(popIreland$pop_2011, xlab = "2011", ylab = "Population (in thousands)")
23
24 BP2016
25 BP2011
26
27 plot.ecdf(popIreland$pop_2016)
28 plot.ecdf(popIreland$pop_2011)
29
30 quantile(popIreland$pop_2016, )
31 quantile(popIreland$pop_2016, probs = 0.20)
32 quantile(popIreland$pop_2016, probs = 0.80)
33
34 quantile(popIreland$pop_2011, )
35 quantile(popIreland$pop_2011, probs = 0.20)
36 quantile(popIreland$pop_2011, probs = 0.80)
37
25:7 (Top Level) R Script
```

The mean in 2011 = [1] 148.0065

The mean in 2016 = [1] 153.6097

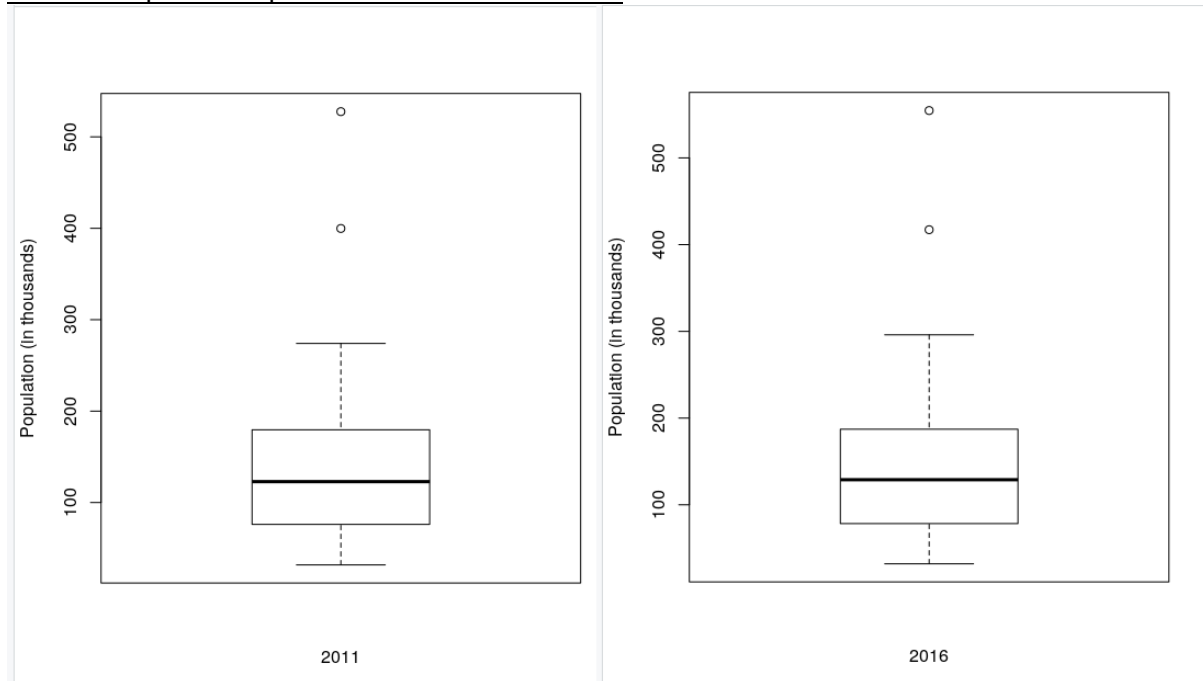
The median in 2011 = [1] 122.9

The median in 2016 = [1] 128.9

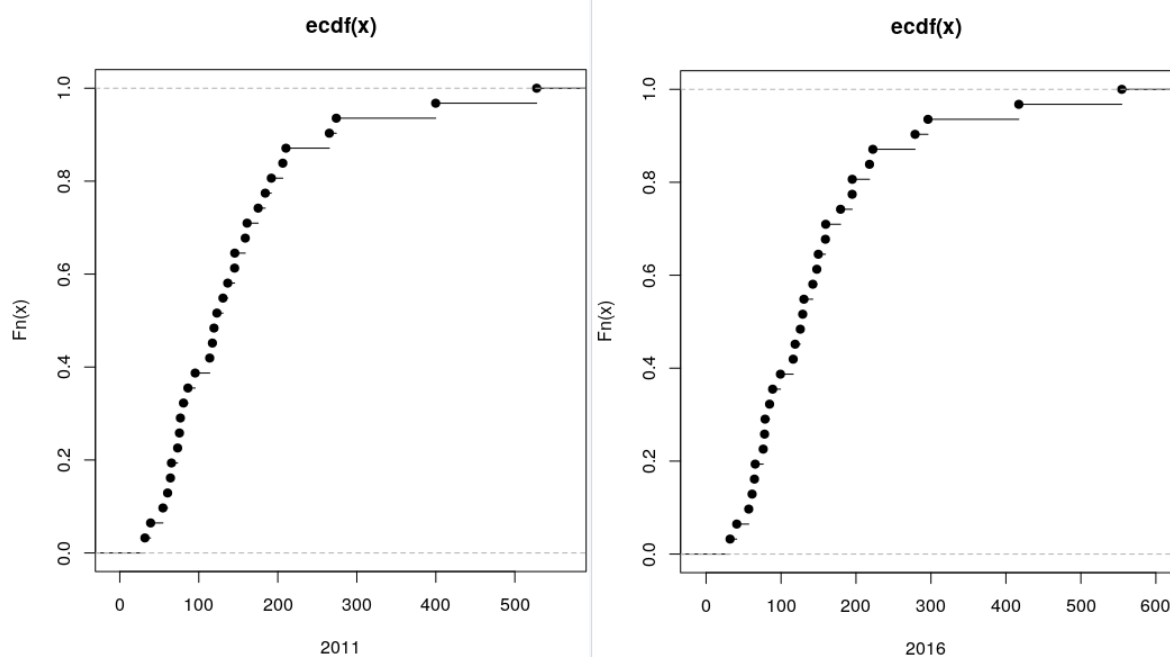
The Standard Deviation in 2011 = [1] 105.7274

The Standard Deviation in 2016 = [1] 111.6923

2011 Box plot compared to 2016 Box Plot:



2011 ECDF Plot compared to 2016 Box Plot:



2011 Quantiles:

0%	25%	50%	75%	100%
31.8	76.1	122.9	179.6	527.6

Bonus: 20% = 73.2, 80% = 191.8

2016 Quantiles:

0%	25%	50%	75%	100%
32.00	78.35	128.90	187.15	554.6

Bonus: 20% = 76.2, 80% = 195

Comments:

From this information, we can tell there's been a definite population within 5 years. Donegal & Mayo were the only counties that had a population decrease, With Donegal's population decreasing by 1.9 thousand and Mayo's decreasing by .1 thousand.

Unsurprisingly, Dublin City had the biggest population increase over the 5 years, increasing by a respectable 27 thousand.

The population of Ireland in 2011 is 4588.2 thousand (Thousands being used for consistency) And in 2016, it is 4761.9 thousand. This means the population of Ireland has increased by 173.7 thousand.