AS

Lab 1

Filip Uherek

1.

Over 1 year:

Mean: 5505.673600
Median: 5502.745000
Quantile 25%: 5493.145000
Quantile 75%: 5522.272500
STD: 21.821165

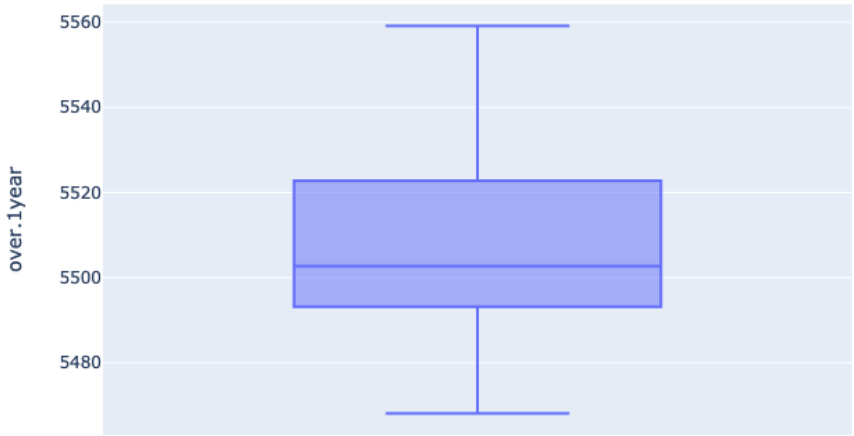
Not 1 year:

Mean: 5489.336600
Median: 5488.380000
Quantile 25%: 5478.755000
Quantile 75%: 5499.477500
STD: 19.668898

Based on those statistics it looks like those groups are very similar. People working over 1 year in given company are earning slightly more than those who are working shorter period of time. Also it looks like given data is pretty close to normal distribution.

2.

Over 1 year:

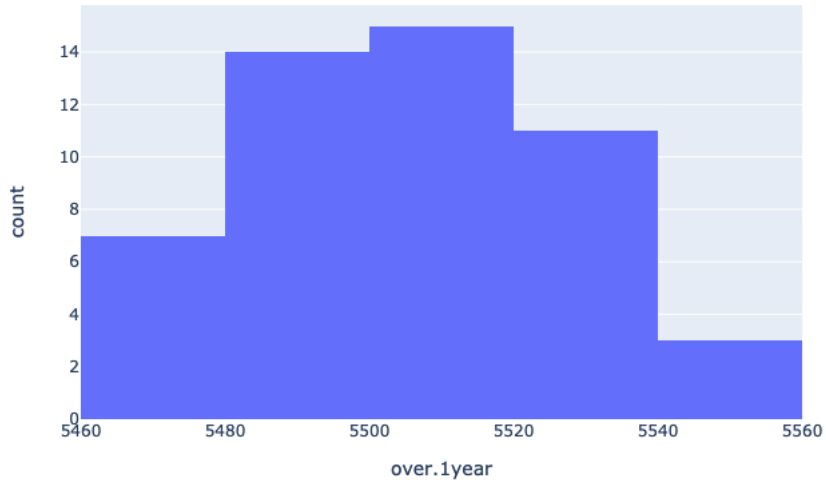


Not 1 year:

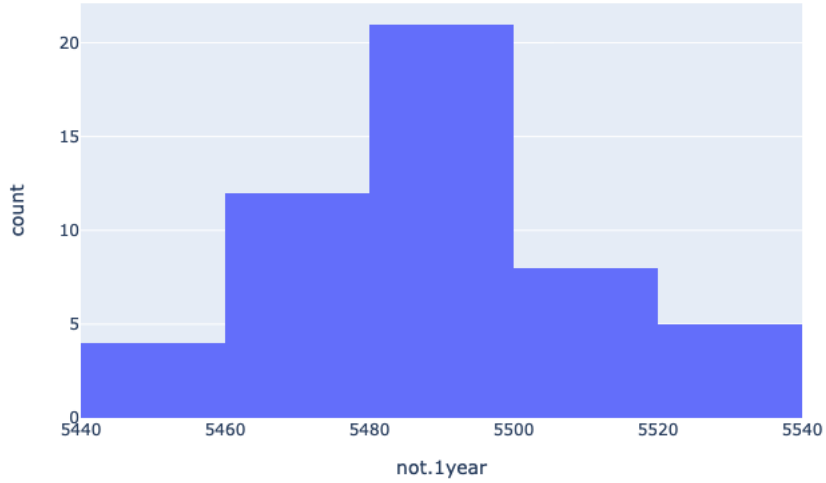
Looking at the box plots in the first boxplot (over 1 year) median is positioned closer to the first quantile, which give conclusion that distribution is slightly right-skewed, while second box plot (not 1 year) is closer to symmetrical distribution. Also, it shows that for group with not 1 year an outlier is occurring.

3.

Over 1 year:



Not 1 year:



Looking at the histograms for the group with over 1 year data is more combined around mean and only 3 people are earning little more than most of people. Where in group of not 1 year most people earn mean of given group and less people are depart from the mean.

4.

Levene's Test for variances

Variance for group over 1 year: 476.1632480000002

Variance for group not 1 year: 386.8655412653049

Population variances are not equal

Null hypotheses: there's no difference between those two groups
Group over 1 year = Group not 1 year

Alternate hypotheses: Two groups are different.

According to t-test:

Ttest_indResult(statistic=3.9322821289595757, pvalue=0.00015706141373177958)

p-value = 0.00015706141373177958

We can reject the null hypotheses.