- **Frequency Table**

Previous Ownership	Frequency	Relative Frequency
None	85	$\frac{85}{500} = 0.17$
Windows	60	$\frac{60}{500} = 0.12$
Macintosh	355	$\frac{355}{500} = 0.71$
Total	500	$\frac{500}{500} = 1$

- **Stem and Leaf**

```
3|2337
2|001112223889
1|2244456888899
0|69
```

```
3|7
3|233
2|889
2|001112223
1|56888899
1|22444
0|69
```

```
          11 | 4 |
             | 3 | 7
         332 | 3 | 233
        8865 | 2 | 889
    44331110 | 2 | 001112223
   987776665 | 1 | 56888899
         321 | 1 | 22444
           7 | 0 | 69
```

- **Box and Plot**

Name	**Formula**
25th Quartile / Lower Hinge	
50th Quartile / Median	$\frac{3(n+1)}{4}$
75th Quartile / Upper Hinge	$\frac{3(n+1)}{4}$th term

- **One Way ANOVA - Independent Measures**

  N = Total no. of ppl/objects in the experiment

  n = No. of ppl/objects per group

  a = No. of experimental groups/conditions

  μ = Sample mean

  SS = Sum of Squares

1. State Null and Alternate Hypothesis
   - H0 = μ1 = μ2 = … = μn.
   - H1 = Not all μ's are the same.
2. Find degrees of freedom
   - $df_{between}$ = a - 1 (df numerator)
   - df_{within} = N - a (df denominator)
   - df_{total} = N - 1
3. Find critical value with the 2 df's calculated.
   - **Calculator** / **Table**

- If calculated F-statistic < critical value, reject the null hypothesis.

4. Calculate F-Statistic Value:
   - $SS_{between} = \frac{\Sigma(\Sigma a_i)^2}{n} - \frac{T^2}{N}$ where:
     i. $\Sigma(\Sigma a_i)^2$ is the sum of squared sums of all groups. $[(\Sigma A)^2 + (\Sigma B)^2 + \ldots + (\Sigma Z)^2]$
        - Sum everything in Group A then square the sum
     ii. T^2 is the total sum of all group sums $[(\Sigma A) + (\Sigma B) + \ldots + (\Sigma Z)]^2$
   - $SS_{within} = \Sigma Y^2 - \frac{\Sigma(\Sigma a_i)^2}{n}$ where:
     i. ΣY^2 is the sum of the square of each individual value $[a^2 + b^2 + c^2 + ... + z^2]$
   - $SS_{total} = \Sigma Y^2 - \frac{T^2}{N}$
   - ballsack

Links

1. 5 Number Summary + IQR + Inner Outer Fence + Outliers + Geometric Mean + Sum of Squares + Standard Deviation (Sample/Population) + Variance Calculator:
    - https://www.hackmath.net/en/calculator/five-number-summary
2. Permutation CombinCalculator:
    - https://www.calculator.net/permutation-and-combination-calculator.html
3. Binomial Distribution (Singular and Cumulative):
    - https://stattrek.com/online-calculator/binomial
4. Pearson's Correlation Coefficient:
    - https://www.socscistatistics.com/tests/pearson/default2.aspx
5. One Way ANOVA - Independent Measures
    - https://www.socscistatistics.com/tests/anova/default2.aspx
6. One WAY ANOVA - Repeated Measures
    - https://www.socscistatistics.com/tests/anovarepeated/default.aspx
7. Single Sample T-Test:
    - https://www.socscistatistics.com/tests/tsinglesample/default.aspx
8. Chi-Square Test:
    - https://www.socscistatistics.com/tests/chisquare2/default2.aspx
9. P Value from F-Statistic:
    - https://www.socscistatistics.com/pvalues/fdistribution.aspx