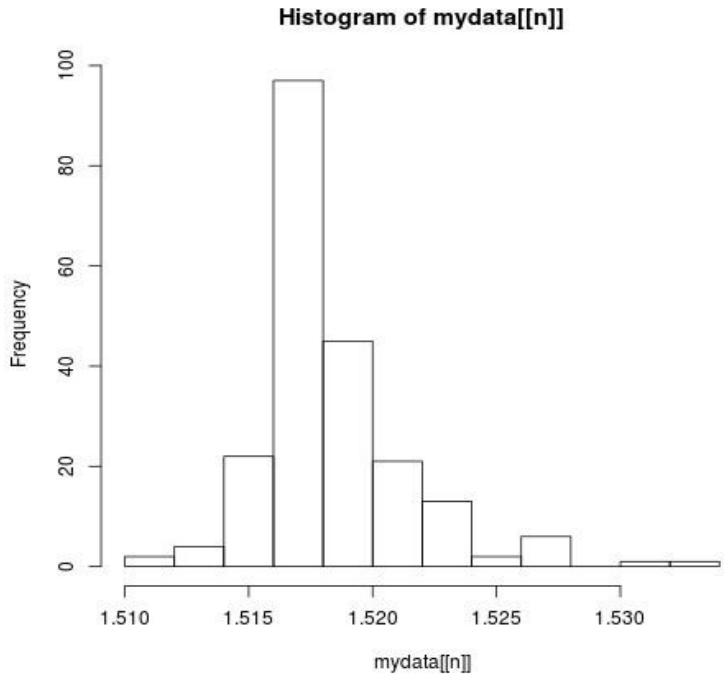
Criminological Investigation

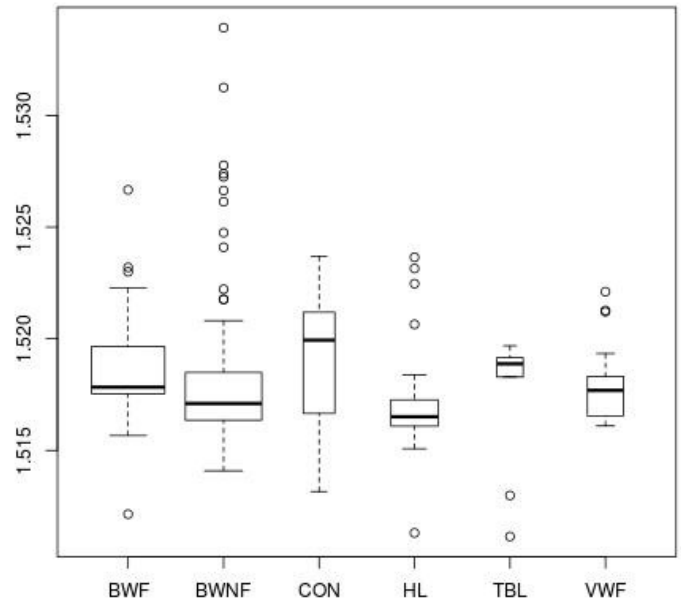
Summary Measures

Numeric Attribute	Mean	Standard Deviation	Type of Distribution
RI	1.518365	0.003036864	Skewed to right, nearly symmetric
Na	13.40785	0.8166036	Nearly Symmetric
Mg	2.684533	1.442408	Bimodal
Al	1.444907	0.4992696	Nearly Symmetric
Si	72.65093	0.7745458	Nearly Symmetric
K	0.4970561	0.6521918	Skewed to right
Ca	8.956963	1.423153	Skewed to right, nearly symmetric
Ba	0.1750467	0.4972193	Skewed to right
Fe	0.05700935	0.0974387	Skewed to right

Box Plots and Histograms:

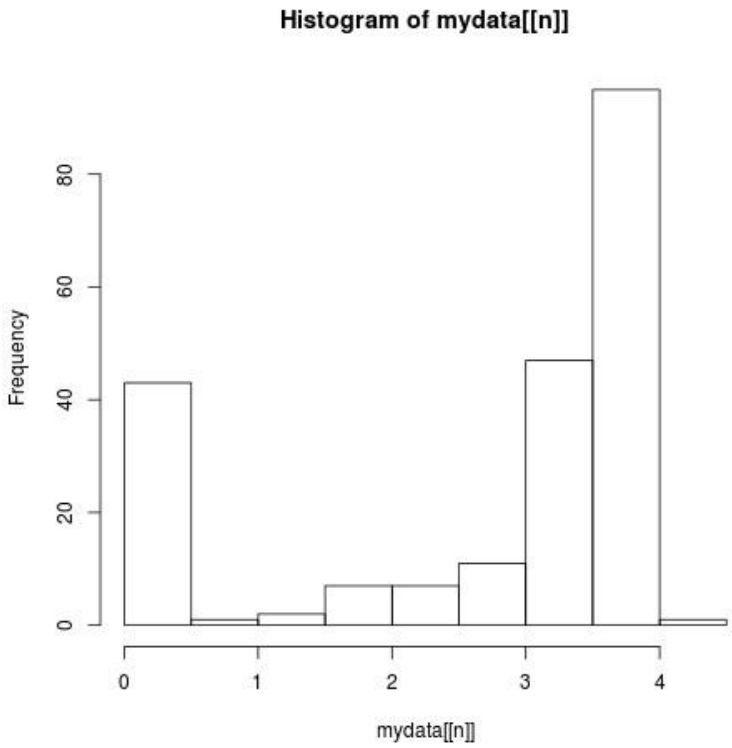
1. **RI:**

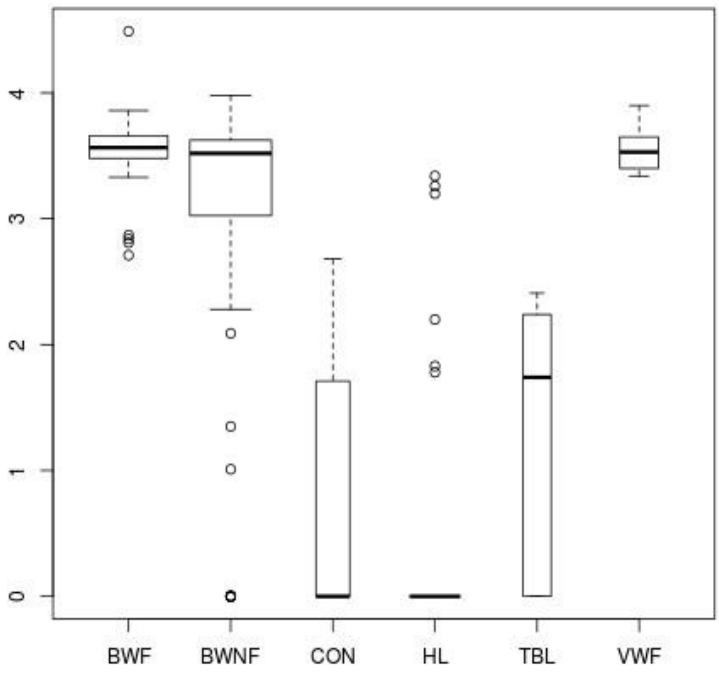




1. The histogram is symmetrical which indicates that RI values have only 1 mode.
2. Box plots indicate the same.
3. BWNF boxplot contains too many outlines beyond it's first quartile.

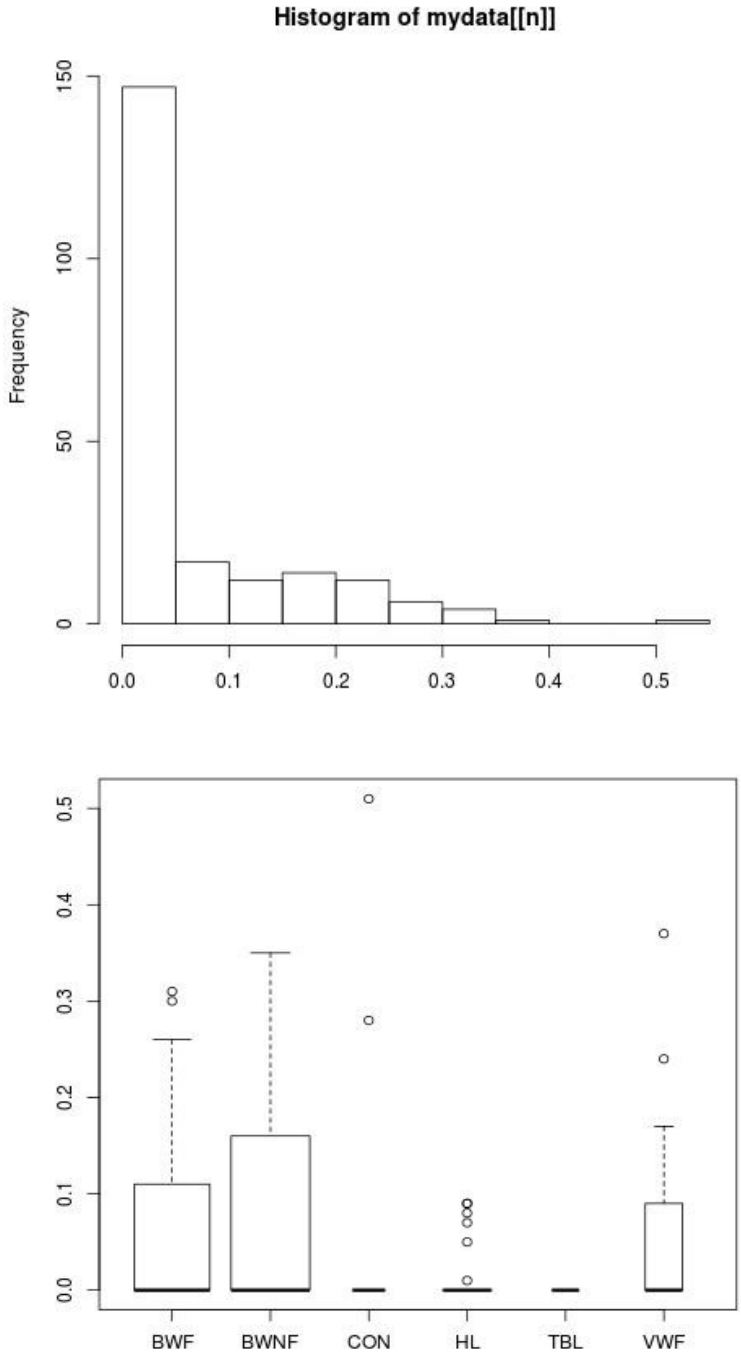
2. **Mg**





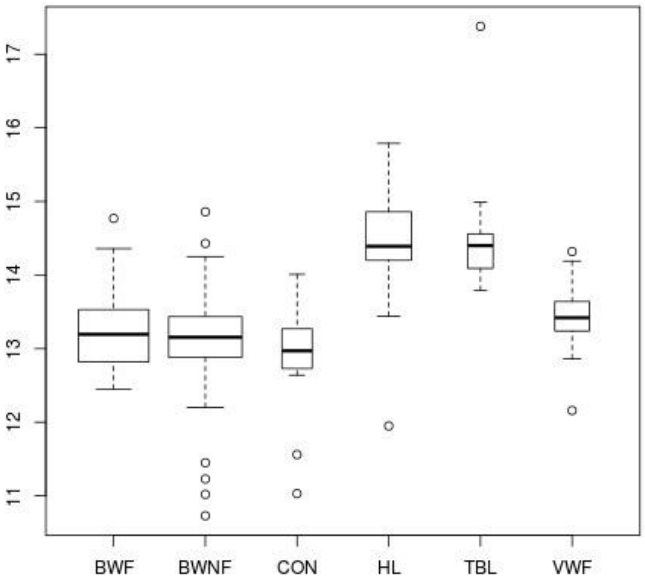
1. The histogram indicates that the distribution is bi-modal. ie. Most of the data is clusterred at two points. (2 modes)
2. Building_windows_float_processed Mg oxides are symmetrically distributed.
3. The Mg oxides for headlamps lies at onliners(varied data), but most of the data is almost 0(median at 0, and box, whiskers at 0)
4. BWF, BWNF, VNF Mg oxides have almost equal median values.

3. Fe

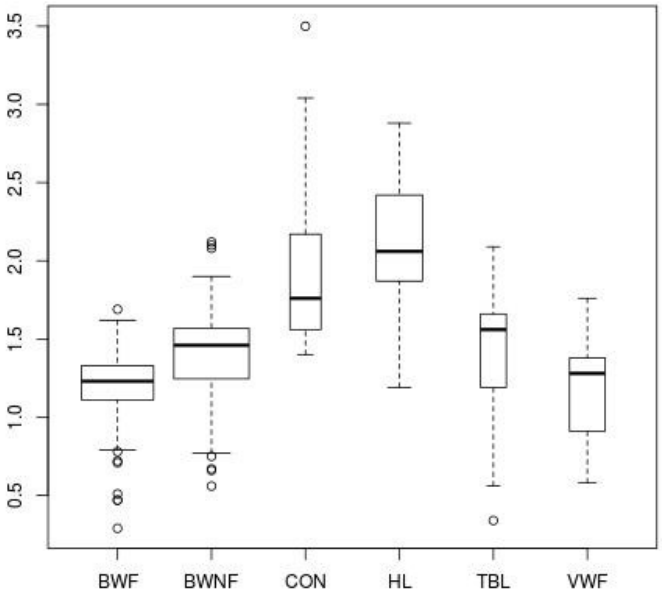


1. The histogram indicates that the distribution is skewed to the right.
2. The boxplot indicates that most of the data(weight percent in corresponding oxide of Fe) is almost 0. Hence median is 0. (mid of the box)
3. Individual histogram for each type indicates that tableware contains no Fe oxides.

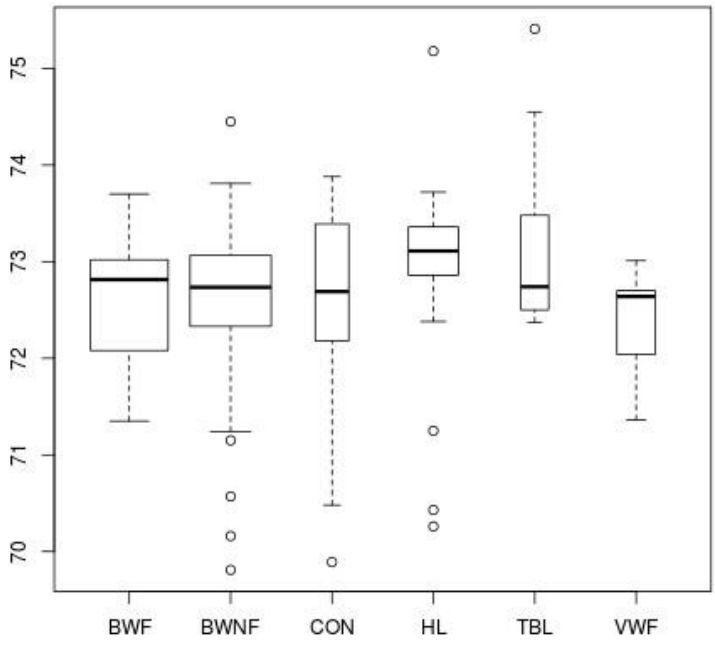
4. Na


17
16
15
14
13
12
11
BWF
BWNF
CON
HL
TBL
VWF

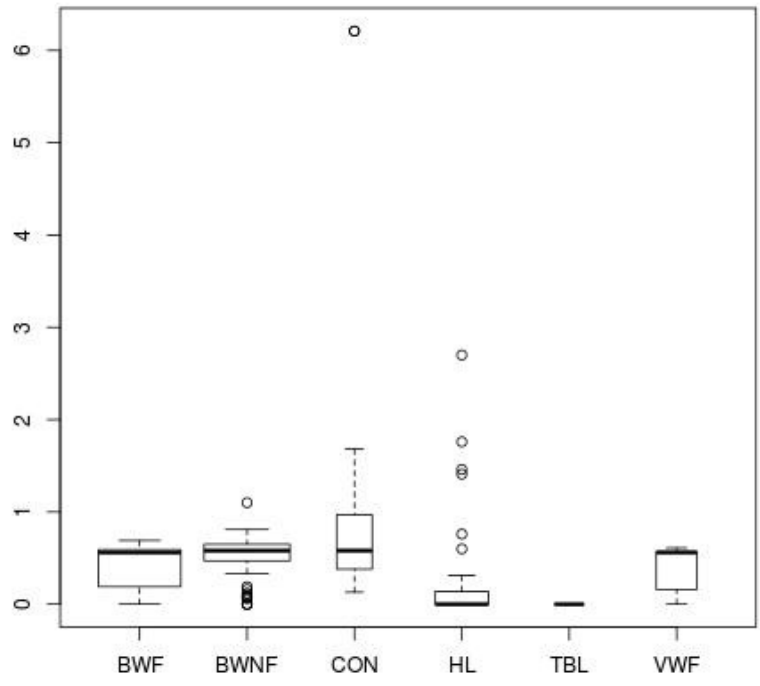
5. Al


3.5
3.0
2.5
2.0
1.5
1.0
0.5
BWF
BWNF
CON
HL
TBL
VWF

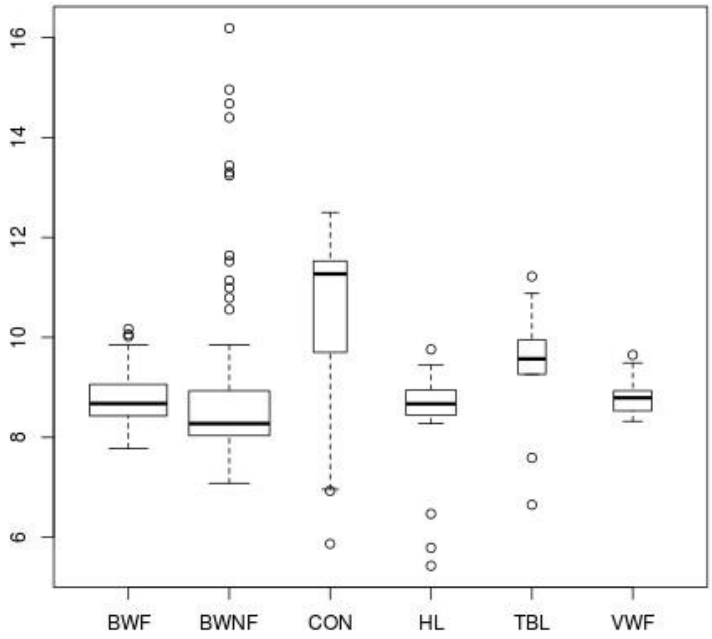
6. Si


70
71
72
73
74
75
BWF
BWNF
CON
HL
TBL
VWF

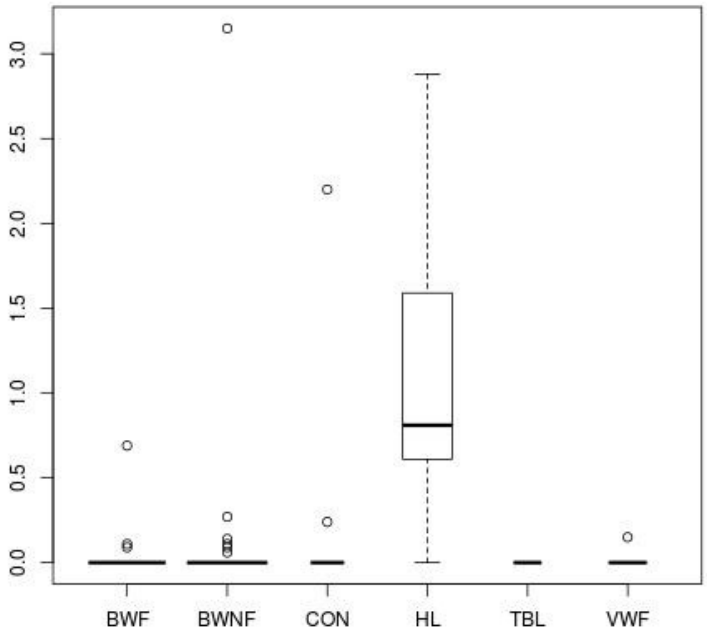
7. K


0
1
2
3
4
5
6
BWF
BWNF
CON
HL
TBL
VWF

8. Ca


16
14
12
10
8
6
BWF
BWNF
CON
HL
TBL
VWF

9. Ba


3.0
2.5
2.0
1.5
1.0
0.5
0.0
BWF
BWNF
CON
HL
TBL
VWF

Prediction:

1. Barium is a good indicator check for presence of glass from headlamps if the weight percent of barium oxide is greater than .5 (as for most other types, either the percentage is 0 or less than .5).
2. Iron oxides are a bad indicator to check for a glass type, because of the data is either 0, or varied (doesn't lie in a set range for different types).
3. 72-74 weight% oxide indicates it is Silicon, as this is the range where medians of all glass types lie.
4. 0-1 weight% oxide indicates it is Potassium, which won't be found in tableware.