Task #2

B)

```
MHW=read.table("MHW.txt", header=TRUE, sep = ",")
```

C)

```
str(MHW)
'data.frame':    500 obs. of  4 variables:
 $ r    : int  1 2 3 4 5 6 7 8 9 10 ...
 $ c    : int  1 1 1 1 1 1 1 1 1 1 ...
 $ grain: num  3.63 4.07 4.51 3.9 3.63 3.16 3.18 3.42 3.97 3.4 ...
 $ straw: num  6.37 6.24 7.05 6.91 5.93 5.59 5.32 5.52 6.03 5.66 …
```

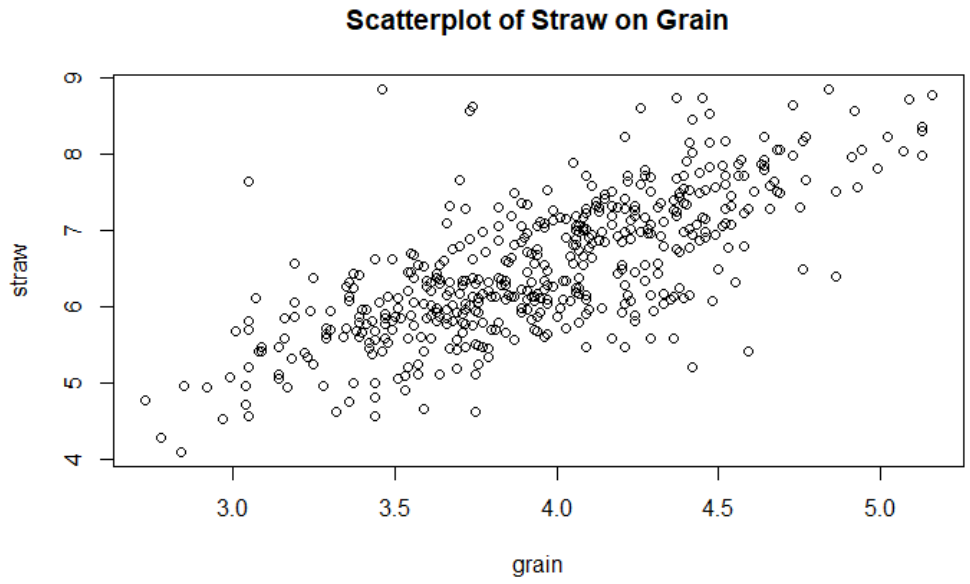
D)

```
names(MHW)
[1] "r"     "c"     "grain" "straw"
```

E)

```
> MHW[1:10,]
   r c grain straw
1   1 1  3.63  6.37
2   2 1  4.07  6.24
3   3 1  4.51  7.05
4   4 1  3.90  6.91
5   5 1  3.63  5.93
6   6 1  3.16  5.59
7   7 1  3.18  5.32
8   8 1  3.42  5.52
9   9 1  3.97  6.03
10 10 1  3.40  5.66
```

F)
plot(MHW[,3], MHW[,4],main = "Scatterplot of Straw on Grain", xlab = "grain", ylab = "straw")



G)
```
> yield.ratio= grain/straw
> MHW1=cbind(MHW, yield.ratio)
> MHW1[1:8,]
  r c grain straw yield.ratio
1 1 1  3.63  6.37   0.5698587
2 2 1  4.07  6.24   0.6522436
3 3 1  4.51  7.05   0.6397163
4 4 1  3.90  6.91   0.5643994
5 5 1  3.63  5.93   0.6121417
6 6 1  3.16  5.59   0.5652952
7 7 1  3.18  5.32   0.5977444
8 8 1  3.42  5.52   0.6195652
> detach()
```

H)
save(MHW1, file = "MHW1.RData")

Task #3

A)
stem(MHW1$grain)

The decimal point is 1 digit(s) to the left of the |

27 | 38
28 | 45
29 | 279
30 | 144555557899
31 | 4446678999
32 | 2345589999
33 | 002455666677789999
34 | 00112233444445667777777888999
35 | 011123344445555666677789999
36 | 000111113333344444566666777778889999
37 | 0001111112222223334444455555666666777778999999
38 | 00112222233344444555666677779999999
39 | 011111111222223333344444455566666777777777999
40 | 01112233334455566666667777777888889999999999
41 | 000111112233344555577777999999
42 | 0000111111122233334444446667777788999999
43 | 011122333356666677777888899999
44 | 00111112222344455666667777899
45 | 0112222234445667888899
46 | 1344446678899
47 | 3356677
48 | 466
49 | 12349
50 | 279
51 | 3336

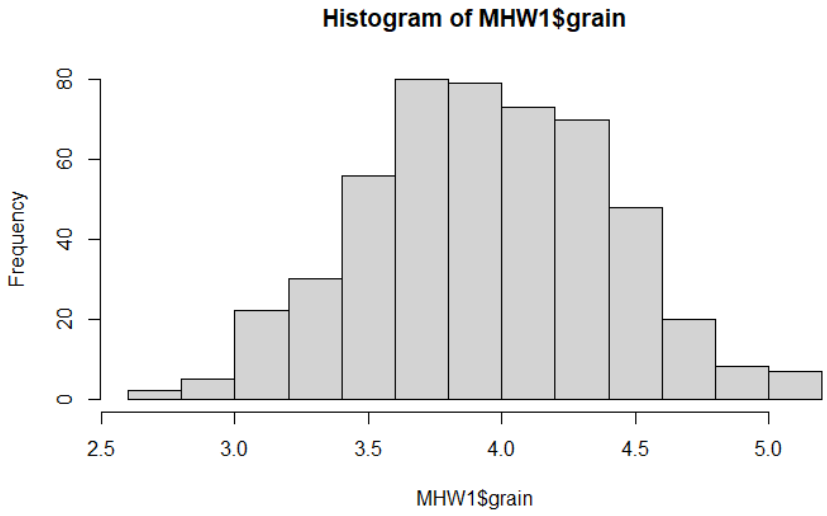
stem(MHW1$straw)

The decimal point is 1 digit(s) to the left of the |

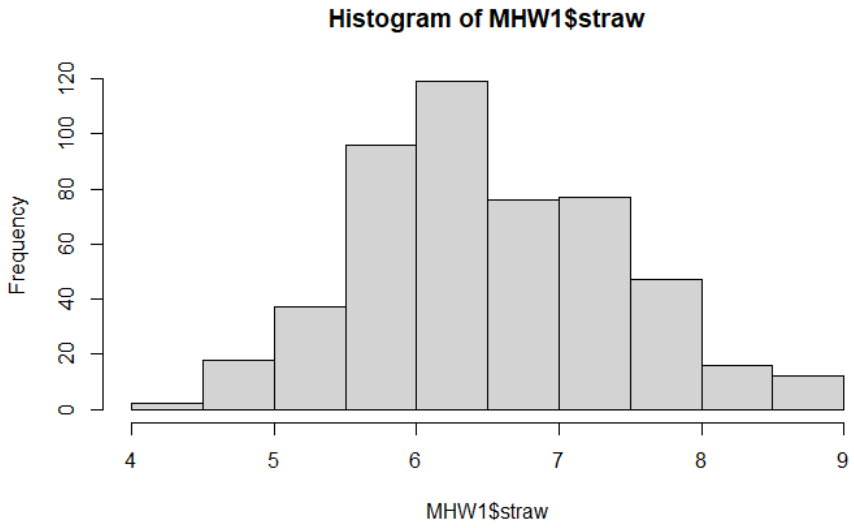
40 | 0
42 | 8
44 | 367

46 | 226167
48 | 1155667
50 | 00557911228
52 | 0014452338
54 | 011112355677788890222667888888899
56 | 00115566688889900001112568888899
58 | 000122222344444566777789901122233345555666677889999
60 | 11233333344556677888899900011112333344444445555555677788 9
62 | 000111334455677889999901233333344455555666777788 9
64 | 2334455667990344455566779
66 | 00233444678900012245567 8899
68 | 012235566777899011133355556678888899
70 | 00233344555566788890011346677778 99
72 | 000233456668888990011122333445667899
74 | 1136790001112233457789
76 | 0144577912233333359
78 | 024466789123689
80 | 256675578
82 | 333317
84 | 5388
86 | 1342458
88 | 55

B)
hist(MHW1$grain)

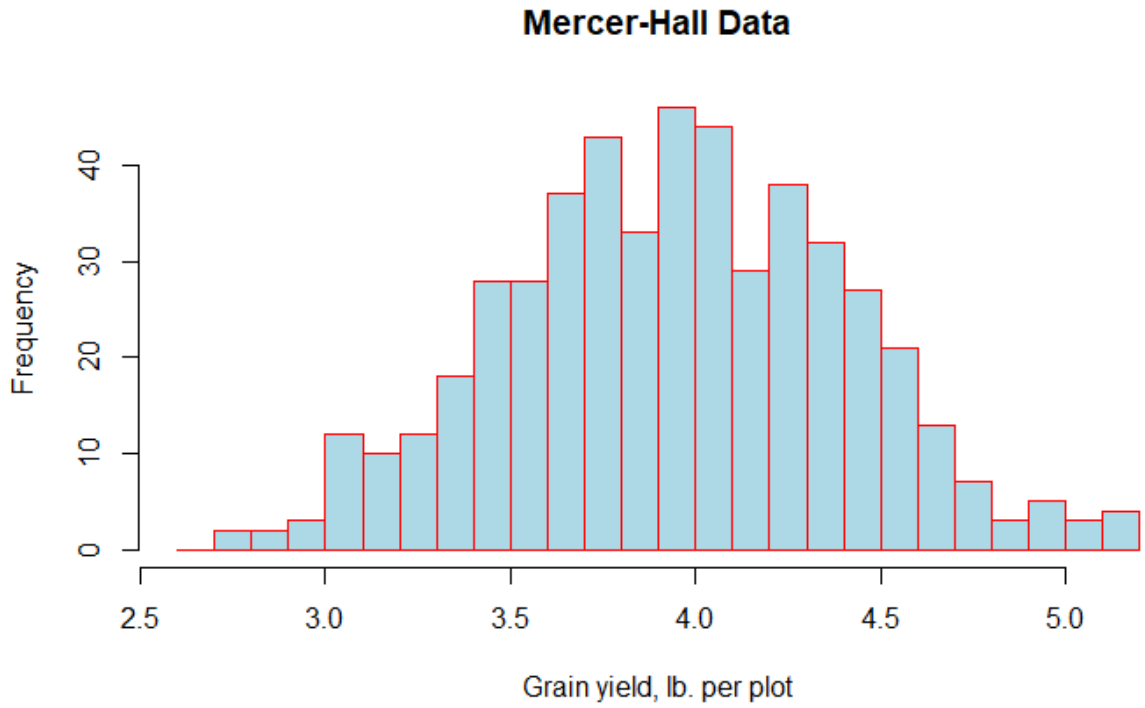


hist(MHW1$straw)



C)

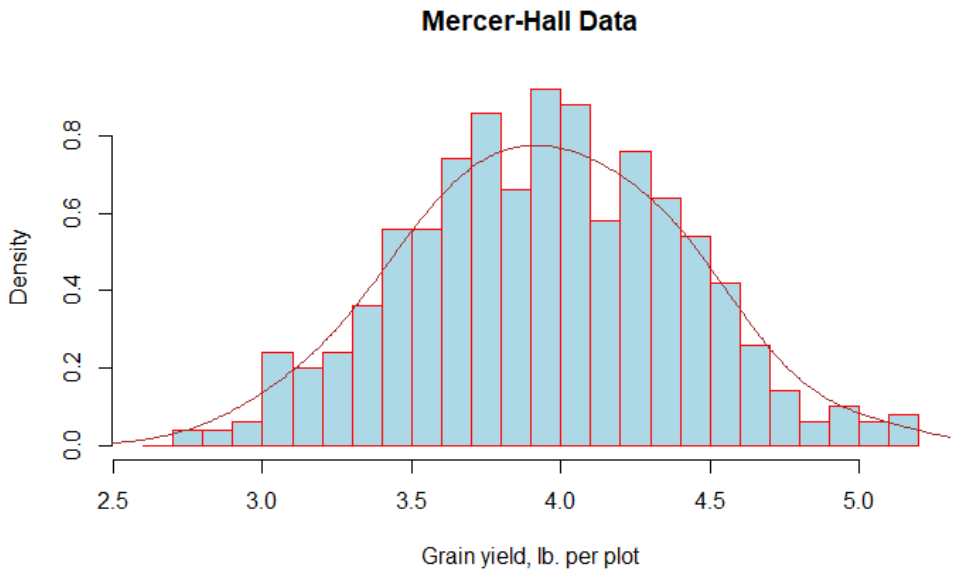
hist(MHW1$grain, breaks = seq(2.6, 5.2, by = .1),col = "lightblue", border = "red", main = "Mercer-Hall Data", xlab = "Grain yield, lb. per plot")



D)

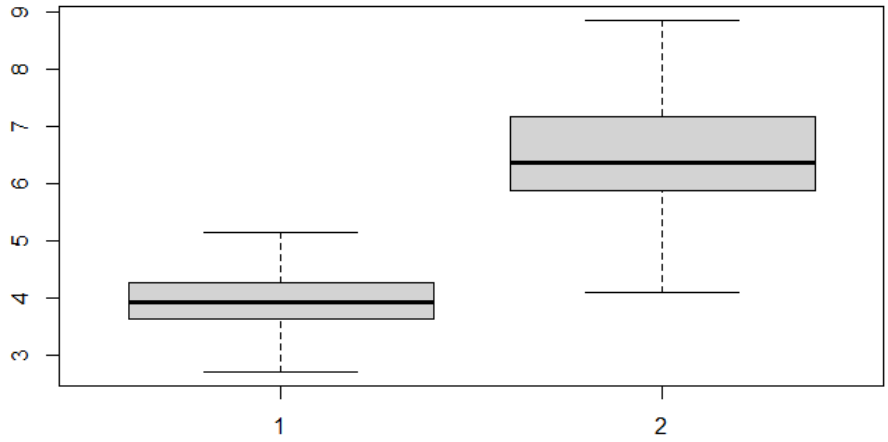
hist(MHW1$grain,freq = FALSE, breaks = seq(2.6, 5.2, by = .1),col = "lightblue", border = "red", main = "Mercer-Hall Data", xlab = "Grain yield, lb. per plot")

lines(density(MHW1$grain,adj=1.5), lwd = 1.5, col = "brown")



E)

boxplot(grain, straw)



Task #4

A)

summary(MHW1)

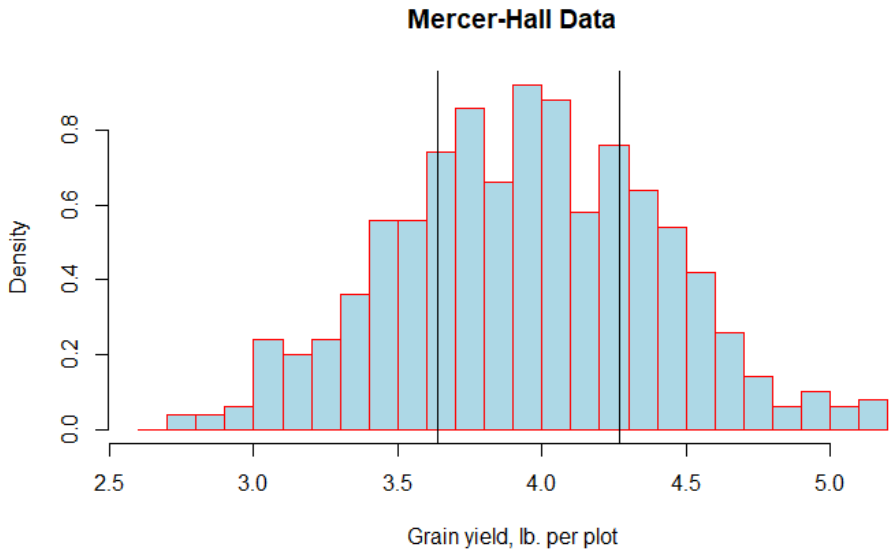
```
      r               c          grain           straw
 Min.   : 1.00   Min.   : 1   Min.   :2.730   Min.   :4.100
 1st Qu.: 5.75   1st Qu.: 7   1st Qu.:3.638   1st Qu.:5.878
```

```
 Median :10.50   Median :13   Median :3.940   Median :6.360
 Mean   :10.50   Mean   :13   Mean   :3.949   Mean   :6.515
 3rd Qu.:15.25   3rd Qu.:19   3rd Qu.:4.270   3rd Qu.:7.170
 Max.   :20.00   Max.   :25   Max.   :5.160   Max.   :8.850

yield.ratio
 Min.   :0.3910
 1st Qu.:0.5737
 Median :0.6044
 Mean   :0.6105
 3rd Qu.:0.6420
 Max.   :0.8500

 apply(MHW1, 2, summary)
           r  c   grain  straw yield.ratio
Min.     1.00  1 2.73000 4.1000   0.3909605
1st Qu.  5.75  7 3.63750 5.8775   0.5737002
Median  10.50 13 3.94000 6.3600   0.6044478
Mean    10.50 13 3.94864 6.5148   0.6105376
3rd Qu. 15.25 19 4.27000 7.1700   0.6420402
Max.    20.00 25 5.16000 8.8500   0.8500000

 summary(MHW1$grain)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  2.730   3.638   3.940   3.949   4.270   5.160

B)

> min(MHW1$grain)
[1] 2.73
> max(MHW1$grain)
[1] 5.16
> mean(MHW1$grain)
[1] 3.94864
> median(MHW1$grain)
[1] 3.94
> var(MHW1$grain)
[1] 0.2100202
> sd(MHW1$grain)
[1] 0.4582796
```

```
> quantile(MHW1$grain)
   0%   25%   50%   75%  100%
2.7300 3.6375 3.9400 4.2700 5.1600
> IQR(MHW1$grain)
[1] 0.6325
```

C)

```
hist(MHW1$grain,freq = FALSE, breaks = seq(2.6, 5.2, by = .1),col = "lightblue", border =
"red", main = "Mercer-Hall Data", xlab = "Grain yield, lb. per plot")
qa = quantile(MHW1$grain, probs = c(.25, .75))
abline(v=qa[1])
abline(v=qa[2])
```



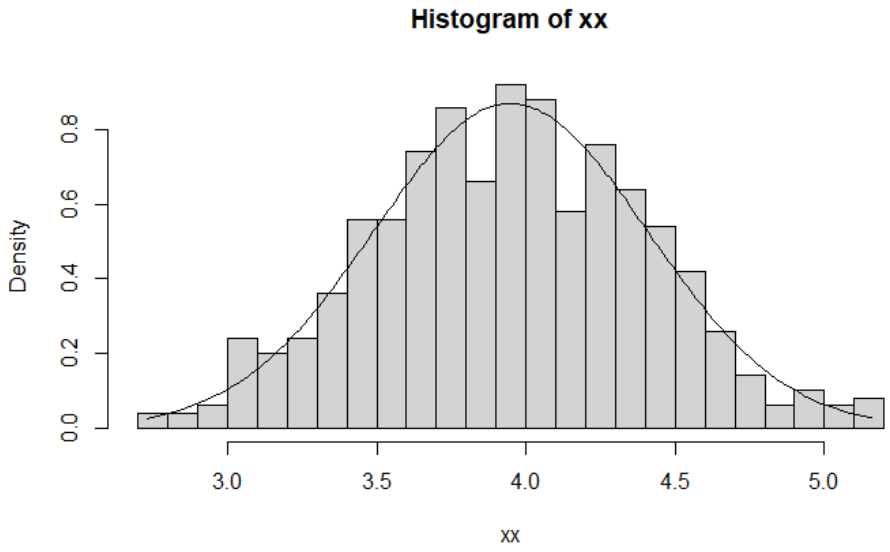
D)

```
> MHW1[which.max(MHW1$grain),]
    r c grain straw yield.ratio
346 19 4  5.16  8.78   0.5876993
> MHW1[which.min(MHW1$grain),]
    r  c grain straw yield.ratio
156 18 17  2.73  4.77    0.572327
```

Task #5

A)

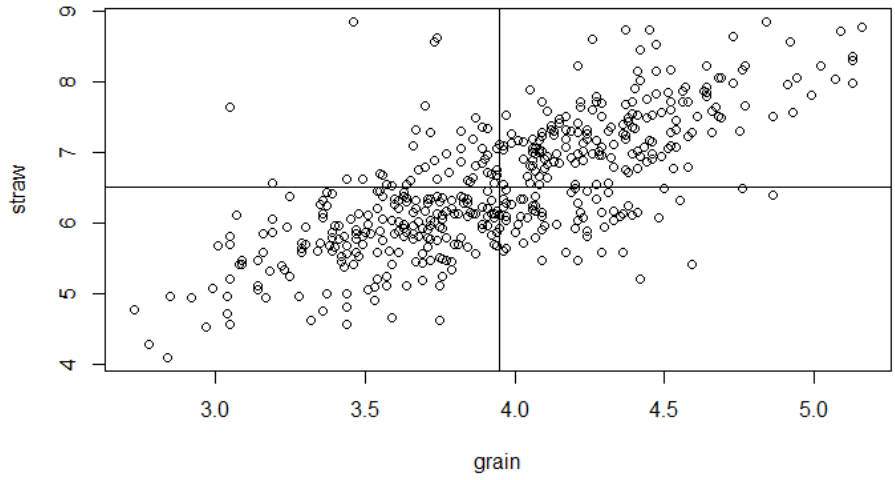
```
> xx = sort(grain)
> hist(xx, nclass = 30, freq = FALSE)
> lines(xx, dnorm(xx, mean(xx), sqrt(var(xx))))
```



Yes, it fits under the curve for the most part

B)

```
> plot(grain, straw)
> abline(v=mean(grain))
> abline(h=mean(straw))
```

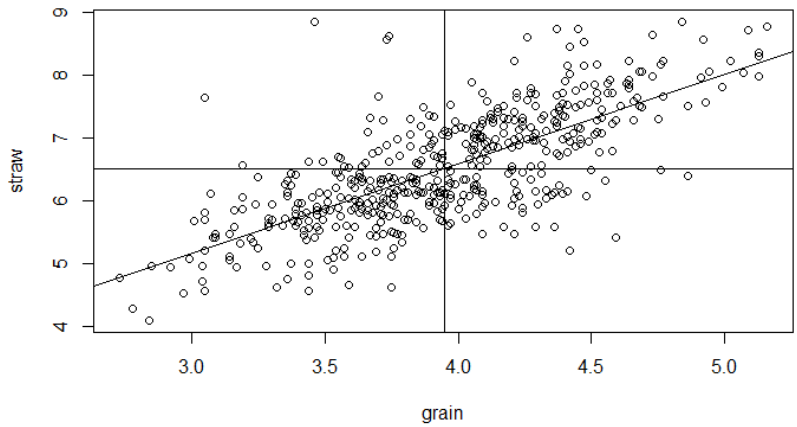


C)

```
> lm.out= lm(straw~ grain)
> summary(lm.out)

Call:
lm(formula = straw ~ grain)

Residuals:
    Min      1Q  Median      3Q     Max
-2.02226 -0.35289  0.01039  0.37339  3.03420

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.86628    0.23872   3.629 0.000314 ***
grain        1.43050    0.06005  23.821  < 2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.6148 on 498 degrees of freedom
Multiple R-squared:  0.5326,  Adjusted R-squared:  0.5316
F-statistic: 567.4 on 1 and 498 DF,  p-value: < 2.2e-16
```

D)

```
abline(lm.out)
```



Task #6

1)

```
data MHW;
infile 'MHW.txt'  delimiter=',' firstobs=2;
input r c grain straw;
run;
```

2)

```
Proc Print Data=MHW (obs=10);
run;
```

The SAS System

Obs r c grain straw
1 1 1 3.63 6.37
2 2 1 4.07 6.24
3 3 1 4.51 7.05
4 4 1 3.90 6.91
5 5 1 3.63 5.93
6 6 1 3.16 5.59
7 7 1 3.18 5.32
8 8 1 3.42 5.52
9 9 1 3.97 6.03
10 10 1 3.40 5.66

3)

```
PROC MEANS DATA=MHW;
VAR grain straw;
RUN;
```

The SAS System

The MEANS Procedure

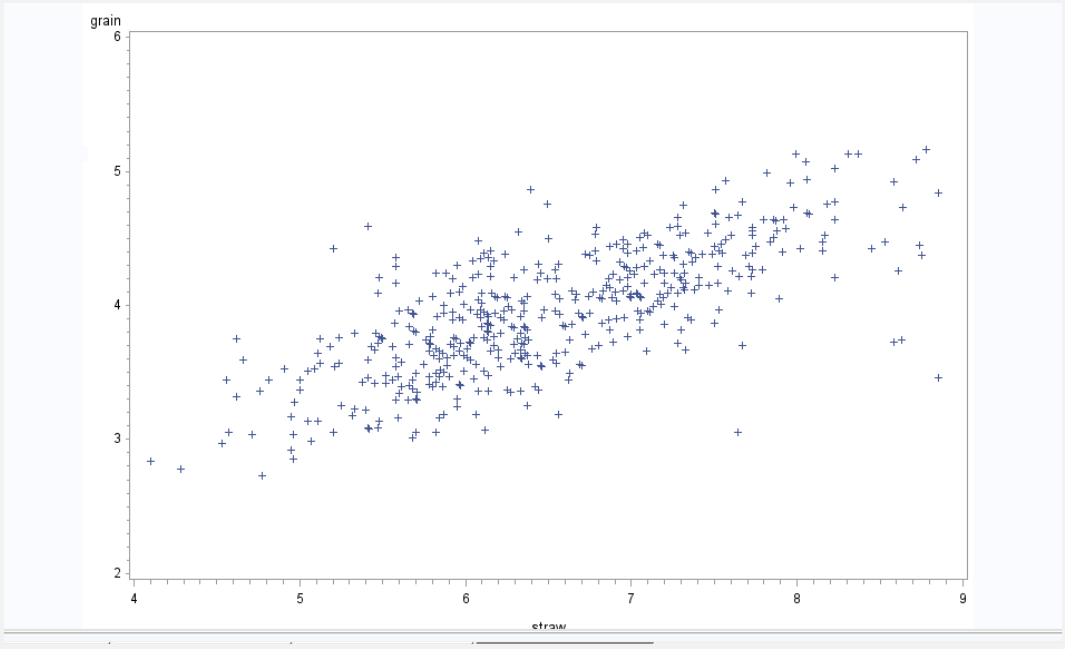
Variable	N	Mean	Std Dev	Minimum	Maximum
grain	500	3.9486400	0.4582796	2.7300000	5.1600000

straw	500	6.5148000	0.8983069	4.1000000	8.8500000

4)

```
proc gplot data=mhw;
plot grain*straw;
run;
```

Plot of grain by straw



5)

```
Data MHW1;
Set MHW;
YieldRatio=grain/straw;
Run;
proc print data=MHW1 (obs=5);
run;
```

The SAS System

Obs r c grain straw YieldRatio
1 1 1 3.63 6.37 0.56986
2 2 1 4.07 6.24 0.65224
3 3 1 4.51 7.05 0.63972
4 4 1 3.90 6.91 0.56440
5 5 1 3.63 5.93 0.61214

6)

```
proc export data=MHW1;
outfile='Data\MHW1.txt' delimiter=' ';
run;
```

7)

```
Data MHW2;
set MHW1;
IF r<= 10 and c<=12 then side='NW';
   ELSE IF r<=10 and c>12 then side='NE';
   ELSE IF r>10 and c<=12 then side='SW';
   ELSE IF r>10 and c>12 then side='SE';
run;
Proc print data=mhw2 (obs=10);
run;
proc sort data=mhw2;
by side;
run;
```

The SAS System

Obs r c grain straw YieldRatio side
1 1 1 3.63 6.37 0.56986 NW
2 2 1 4.07 6.24 0.65224 NW
3 3 1 4.51 7.05 0.63972 NW
4 4 1 3.90 6.91 0.56440 NW
5 5 1 3.63 5.93 0.61214 NW
6 6 1 3.16 5.59 0.56530 NW
7 7 1 3.18 5.32 0.59774 NW
8 8 1 3.42 5.52 0.61957 NW
9 9 1 3.97 6.03 0.65837 NW

10 10 1 3.40 5.66 0.60071 NW

8)

```
proc means data=mhw2;
var grain straw YieldRatio;
by side;
run;
```

side=NE

Variable	N	Mean	Std Dev	Minimum	Maximum
grain	130	3.8717692	0.3909152	2.7800000	4.7600000
straw	130	5.9142308	0.7327202	4.1000000	8.6400000
YieldRatio	130	0.6583316	0.0528337	0.4823990	0.8116883

side=NW

Variable	N	Mean	Std Dev	Minimum	Maximum
grain	120	4.0650000	0.4802678	2.9900000	5.1300000
straw	120	6.6788333	0.8374854	4.7100000	8.5800000
YieldRatio	120	0.6108095	0.0467921	0.5006821	0.8484288

side=SE

Variable	N	Mean	Std Dev	Minimum	Maximum
grain	130	3.7028462	0.4069479	2.7300000	4.8600000
straw	130	6.2476154	0.7024109	4.6600000	8.6300000
YieldRatio	130	0.5952591	0.0544879	0.3992147	0.7703863

side=SW

Variable	N	Mean	Std Dev	Minimum	Maximum
grain	120	4.1818333	0.4048363	3.0700000	5.1600000
straw	120	7.2908333	0.6775966	5.2000000	8.8500000
YieldRatio	120	0.5750406	0.0450916	0.3909605	0.8500000

9)

```
proc univariate data = MHW2 NORMAL PLOT; /*with added
options*/
  title 'Some Descriptive Statistics';
  var grain straw YieldRatio;
  histogram grain straw;
run;
```

Some Descriptive Statistics

The UNIVARIATE Procedure
Variable: YieldRatio

Moments			
N	500	Sum Weights	500
Mean	0.61053761	Sum Observations	305.268806
Std Deviation	0.05878028	Variance	0.00345512
Skewness	0.41782044	Kurtosis	1.59899639
Uncorrected SS	188.102193	Corrected SS	1.72410568
Coeff Variation	9.62762676	Std Error Mean	0.00262873

Basic Statistical Measures			
Location		Variability	
Mean	0.610538	Std Deviation	0.05878
Median	0.604448	Variance	0.00346
Mode	0.612903	Range	0.45904
		Interquartile Range	0.06844

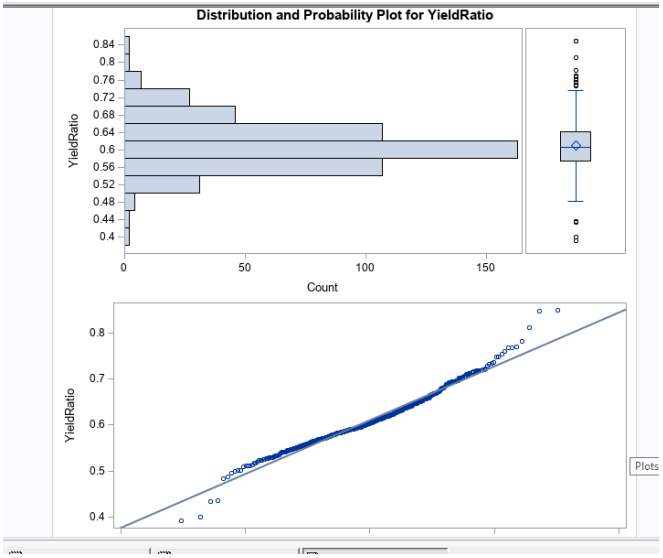
Note: The mode displayed is the smallest of 2 modes with a count of 4.

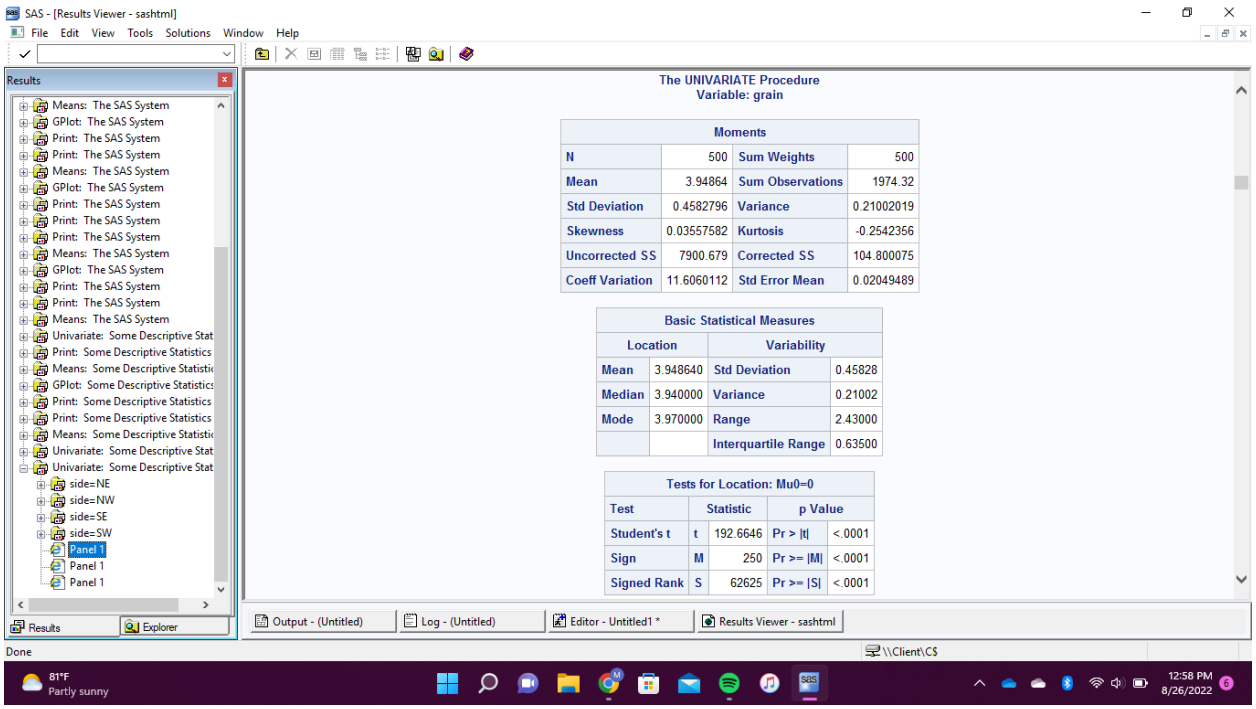
Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	232.2554	Pr > |t|	<.0001
Sign	M	250	Pr >= |M|	<.0001
Signed Rank	S	62625	Pr >= |S|	<.0001

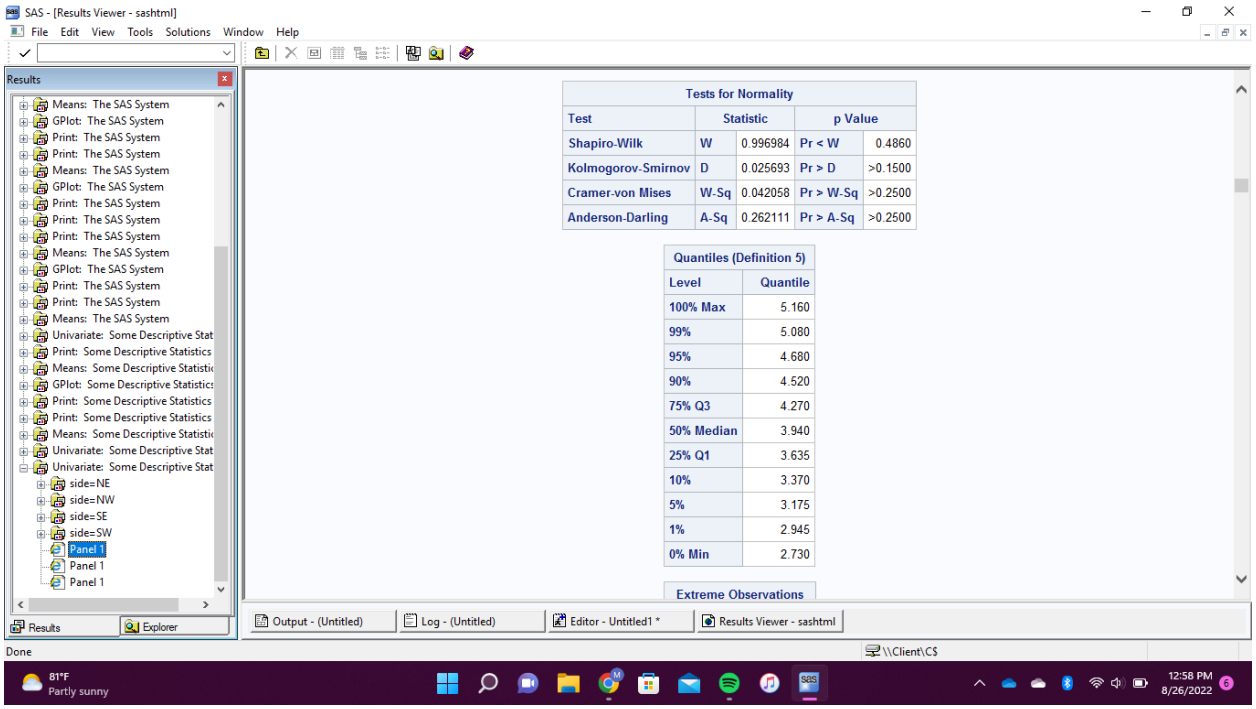
Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.974839	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.058394	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.545321	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	3.152028	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Level	Quantile
100% Max	0.850000
99%	0.769602
95%	0.714731
90%	0.692178
75% Q3	0.642044
50% Median	0.604448
25% Q1	0.573609
10%	0.545835
5%	0.526814
1%	0.484340
0% Min	0.390960

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0.390960	385	0.770386	360
0.399215	297	0.781362	226
0.433372	281	0.811688	24
0.434732	275	0.848429	224
0.482399	25	0.850000	395




SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
The UNIVARIATE Procedure
Variable: grain
Moments
N 500 Sum Weights 500
Mean 3.94864 Sum Observations 1974.32
Std Deviation 0.4582796 Variance 0.21002019
Skewness 0.03557582 Kurtosis -0.2542356
Uncorrected SS 7900.679 Corrected SS 104.800075
Coeff Variation 11.6060112 Std Error Mean 0.02049489
Basic Statistical Measures
Location
Mean 3.948640
Median 3.940000
Mode 3.970000
Variability
Std Deviation 0.45828
Variance 0.21002
Range 2.43000
Interquartile Range 0.63500
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 192.6646 Pr > |t| <.0001
Sign M 250 Pr >= |M| <.0001
Signed Rank S 62625 Pr >= |S| <.0001
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
12:58 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.996984 Pr < W 0.4860
Kolmogorov-Smirnov D 0.025693 Pr > D >0.1500
Cramer-von Mises W-Sq 0.042058 Pr > W-Sq >0.2500
Anderson-Darling A-Sq 0.262111 Pr > A-Sq >0.2500
Quantiles (Definition 5)
Level Quantile
100% Max 5.160
99% 5.080
95% 4.680
90% 4.520
75% Q3 4.270
50% Median 3.940
25% Q1 3.635
10% 3.370
5% 3.175
1% 2.945
0% Min 2.730
Extreme Observations
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
12:58 PM
8/26/2022

SAS - [Results Viewer - sashtml]

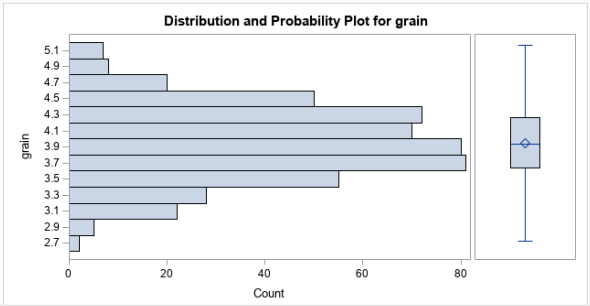
File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
2.73	298	5.09	427
2.78	117	5.13	161
2.84	120	5.13	386
2.85	299	5.13	407
2.92	296	5.16	426



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

81°F Partly sunny 12:58 PM 8/26/2022

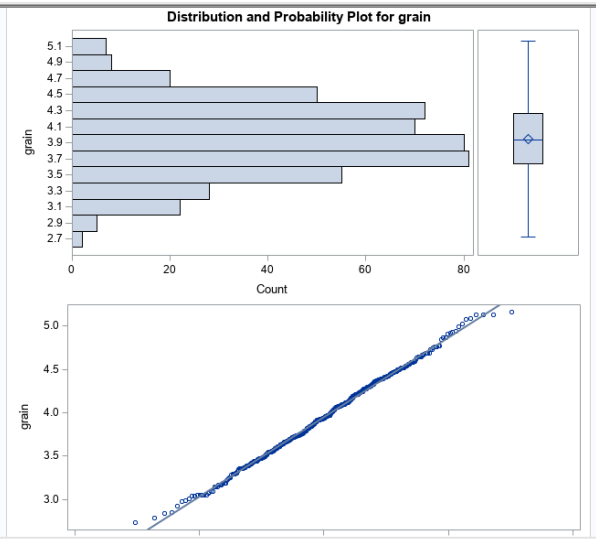
SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

81°F Partly sunny 12:58 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

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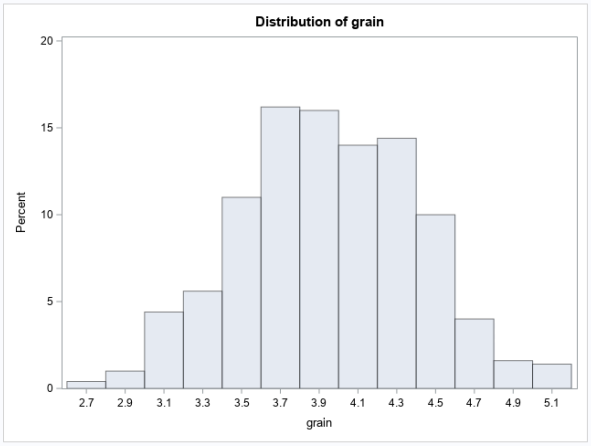
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Some Descriptive Statistics

The UNIVARIATE Procedure



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
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- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
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- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

The UNIVARIATE Procedure
Variable: straw

Moments			
N	500	Sum Weights	500
Mean	6.5148	Sum Observations	3257.4
Std Deviation	0.89830689	Variance	0.80695527
Skewness	0.23986428	Kurtosis	-0.2867719
Uncorrected SS	21623.9802	Corrected SS	402.67068
Coeff Variation	13.7887102	Std Error Mean	0.04017351

Basic Statistical Measures			
Location		Variability	
Mean	6.514800	Std Deviation	0.89831
Median	6.360000	Variance	0.80696
Mode	6.140000	Range	4.75000
		Interquartile Range	1.29500

Note: The mode displayed is the smallest of 2 modes with a count of 7.

Tests for Location: Mu0=0			
Test	Statistic	p Value	
Student's t	t	162.1666	Pr > |t| <.0001

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

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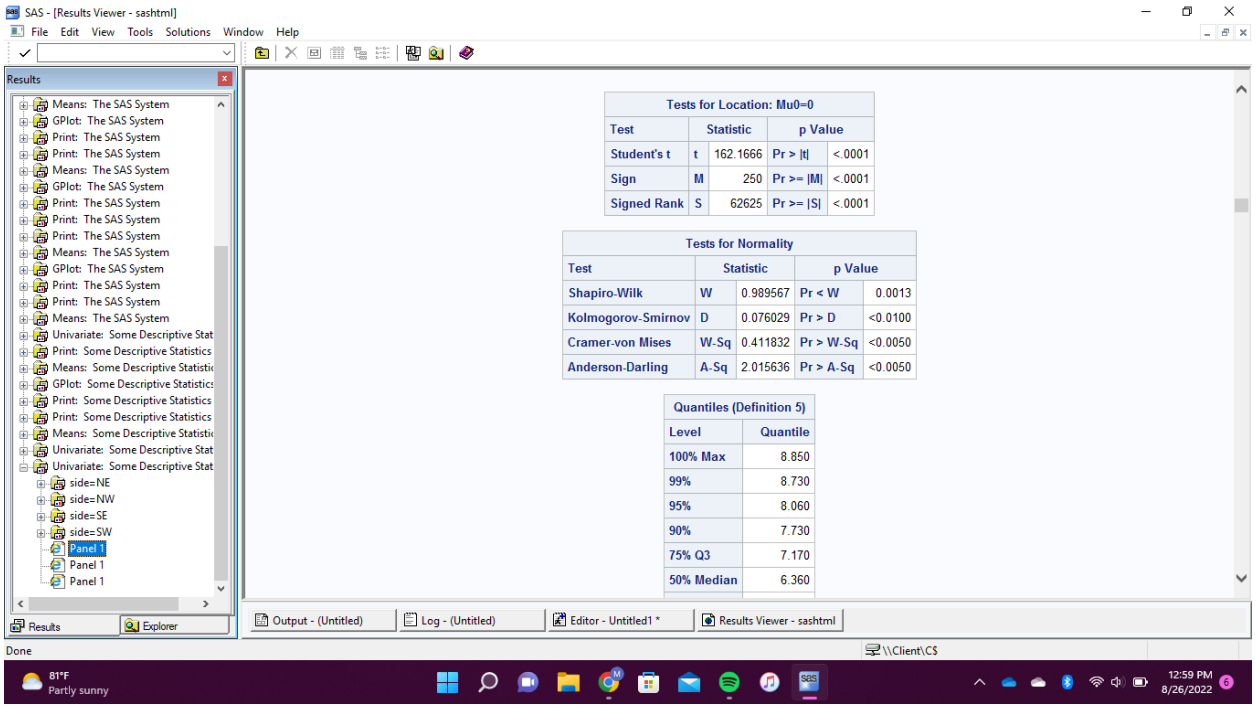
SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Tests for Location: Mu0=0
Test | Statistic | | p Value | |
Student's t | t | 162.1666 | Pr > |t| | <.0001
Sign | M | 250 | Pr >= |M| | <.0001
Signed Rank | S | 62625 | Pr >= |S| | <.0001
Tests for Normality
Test | Statistic | | p Value | |
Shapiro-Wilk | W | 0.989567 | Pr < W | 0.0013
Kolmogorov-Smirnov | D | 0.076029 | Pr > D | <0.0100
Cramer-von Mises | W-Sq | 0.411832 | Pr > W-Sq | <0.0050
Anderson-Darling | A-Sq | 2.015636 | Pr > A-Sq | <0.0050
Quantiles (Definition 5)
Level | Quantile
100% Max | 8.850
99% | 8.730
95% | 8.060
90% | 7.730
75% Q3 | 7.170
50% Median | 6.360
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
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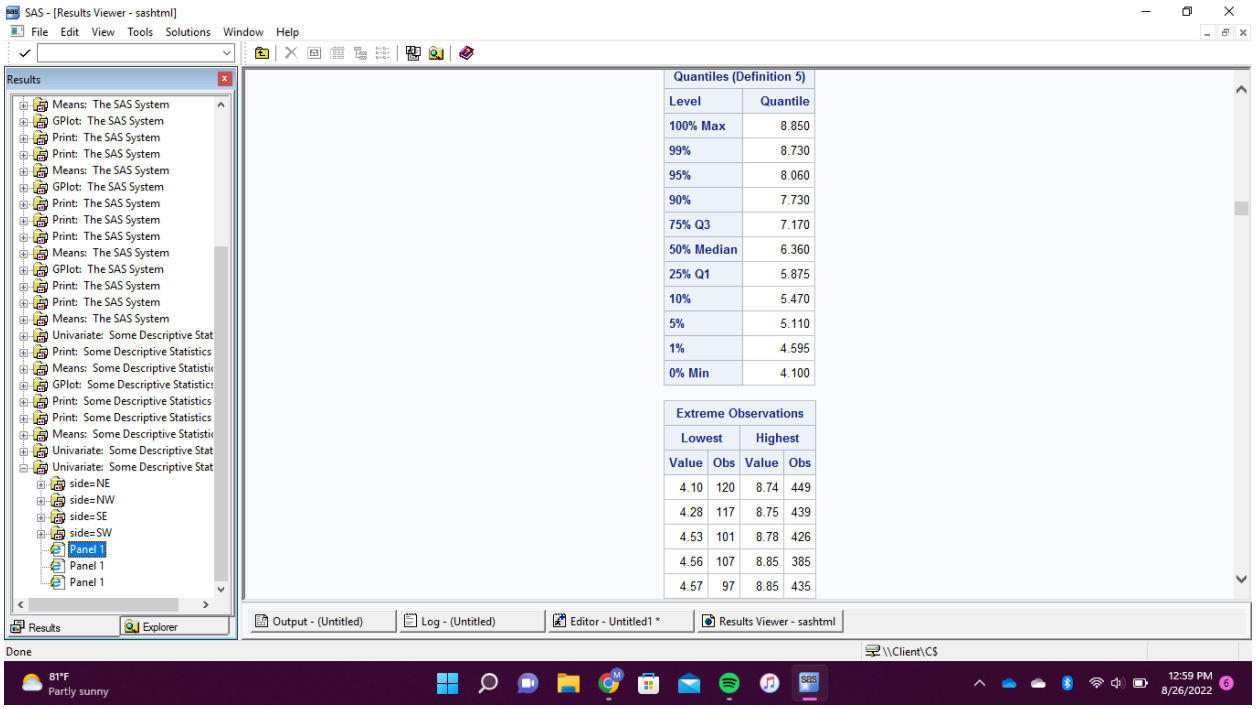
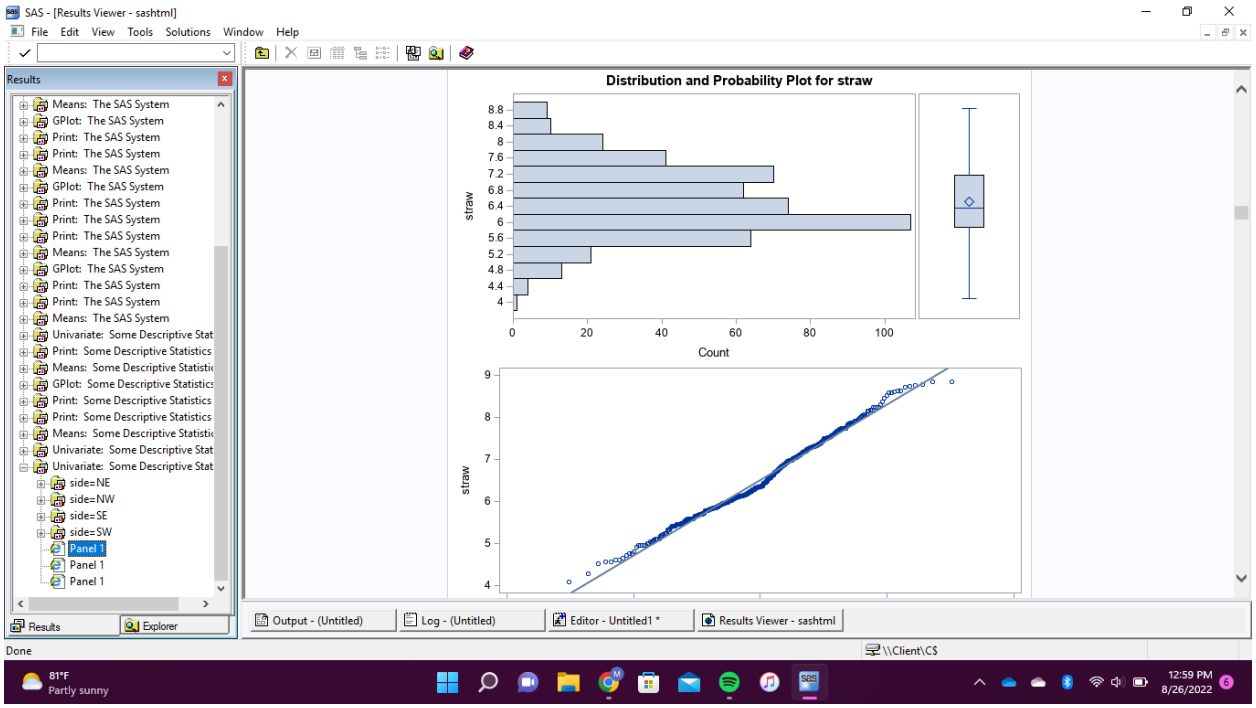
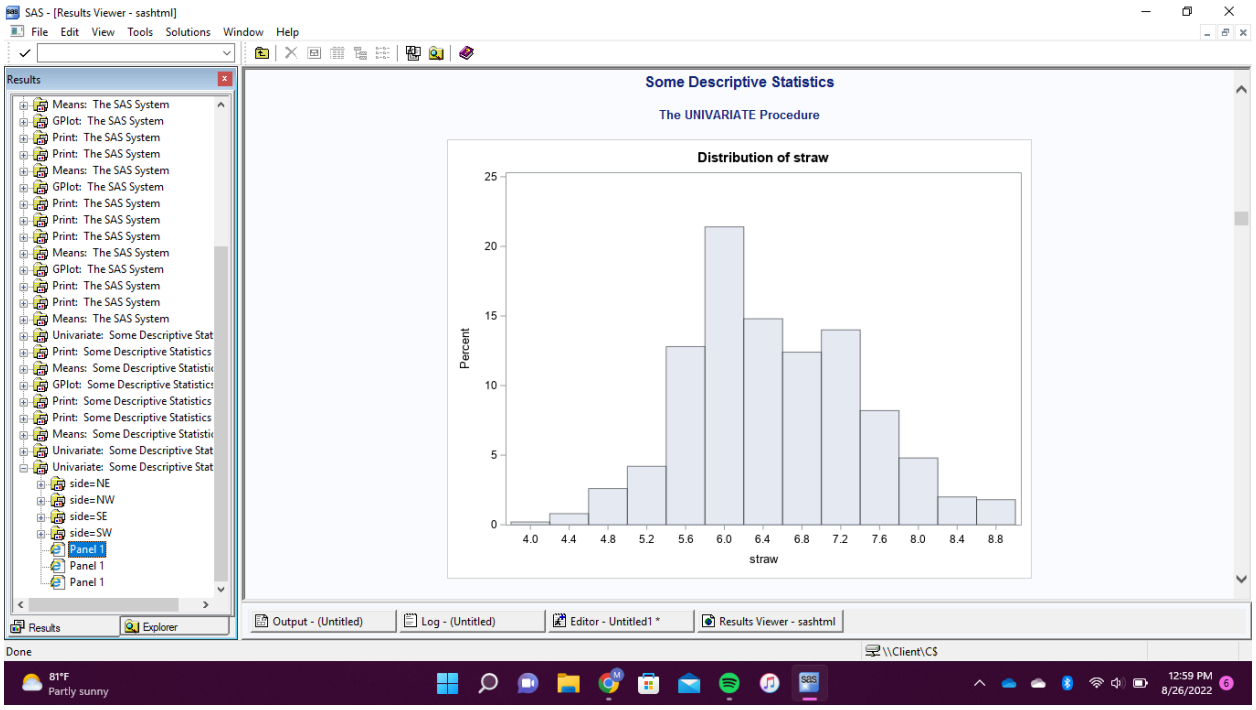
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Quantiles (Definition 5)
Level | Quantile
100% Max | 8.850
99% | 8.730
95% | 8.060
90% | 7.730
75% Q3 | 7.170
50% Median | 6.360
25% Q1 | 5.875
10% | 5.470
5% | 5.110
1% | 4.595
0% Min | 4.100
Extreme Observations
Lowest | | Highest |
Value | Obs | Value | Obs
4.10 | 120 | 8.74 | 449
4.28 | 117 | 8.75 | 439
4.53 | 101 | 8.78 | 426
4.56 | 107 | 8.85 | 385
4.57 | 97 | 8.85 | 435
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
12:59 PM
8/26/2022

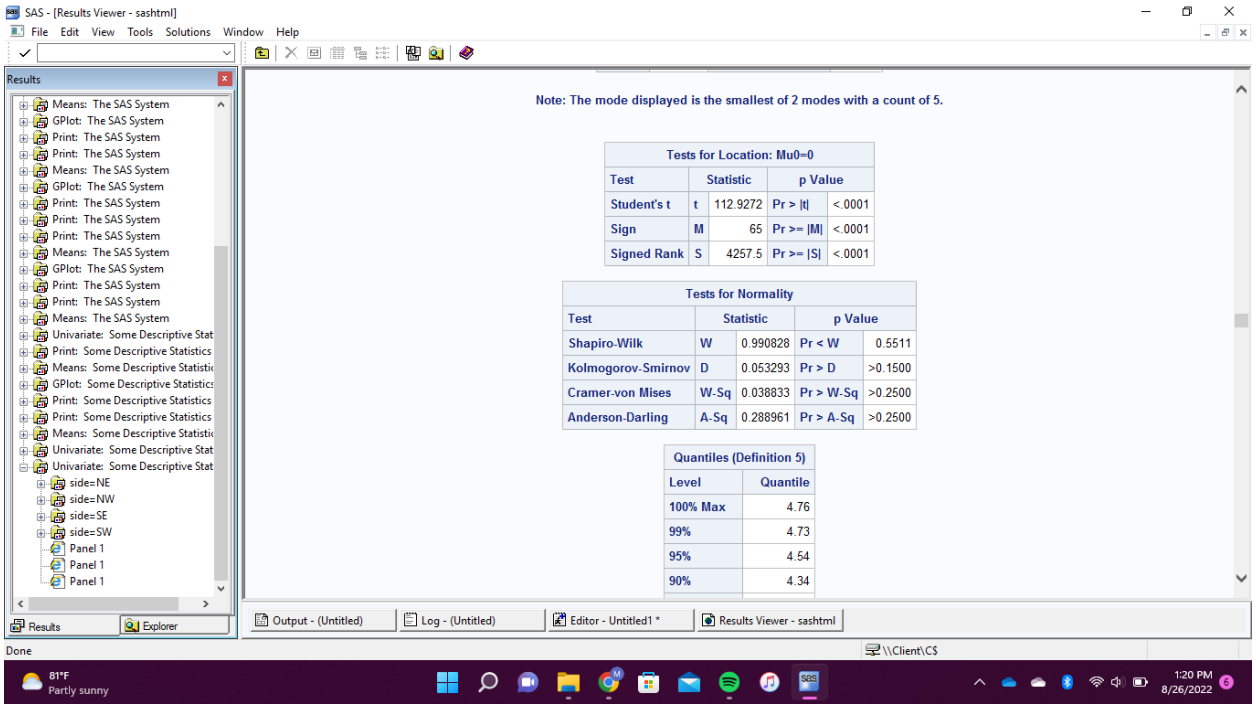




10)

```
proc univariate data = MHW2 NORMAL PLOT;/*with added
options*/
  title 'Some Descriptive Statistics';
  var grain straw YieldRatio;
  histogram grain straw;
```

```
  by side;
run;
```


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Note: The mode displayed is the smallest of 2 modes with a count of 5.
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 112.9272 Pr > |t| <.0001
Sign M 65 Pr >= |M| <.0001
Signed Rank S 4257.5 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.990828 Pr < W 0.5511
Kolmogorov-Smirnov D 0.053293 Pr > D >0.1500
Cramer-von Mises W-Sq 0.038833 Pr > W-Sq >0.2500
Anderson-Darling A-Sq 0.288961 Pr > A-Sq >0.2500
Quantiles (Definition 5)
Level Quantile
100% Max 4.76
99% 4.73
95% 4.54
90% 4.34
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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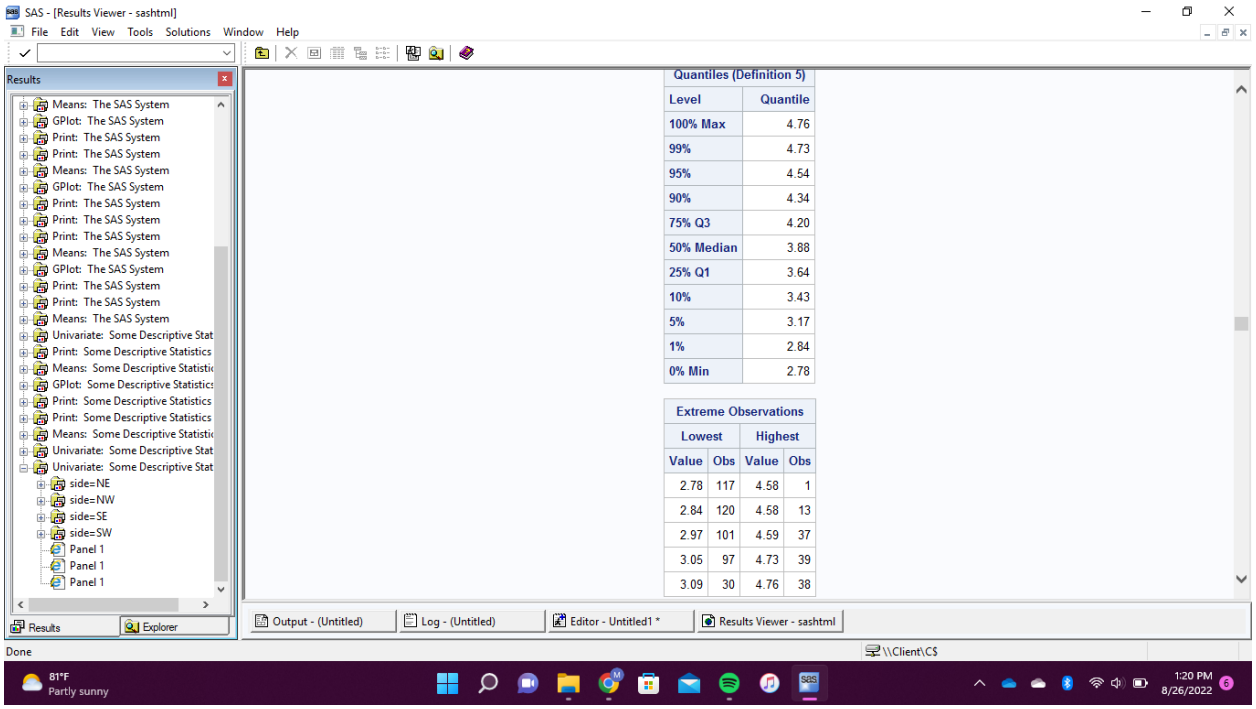
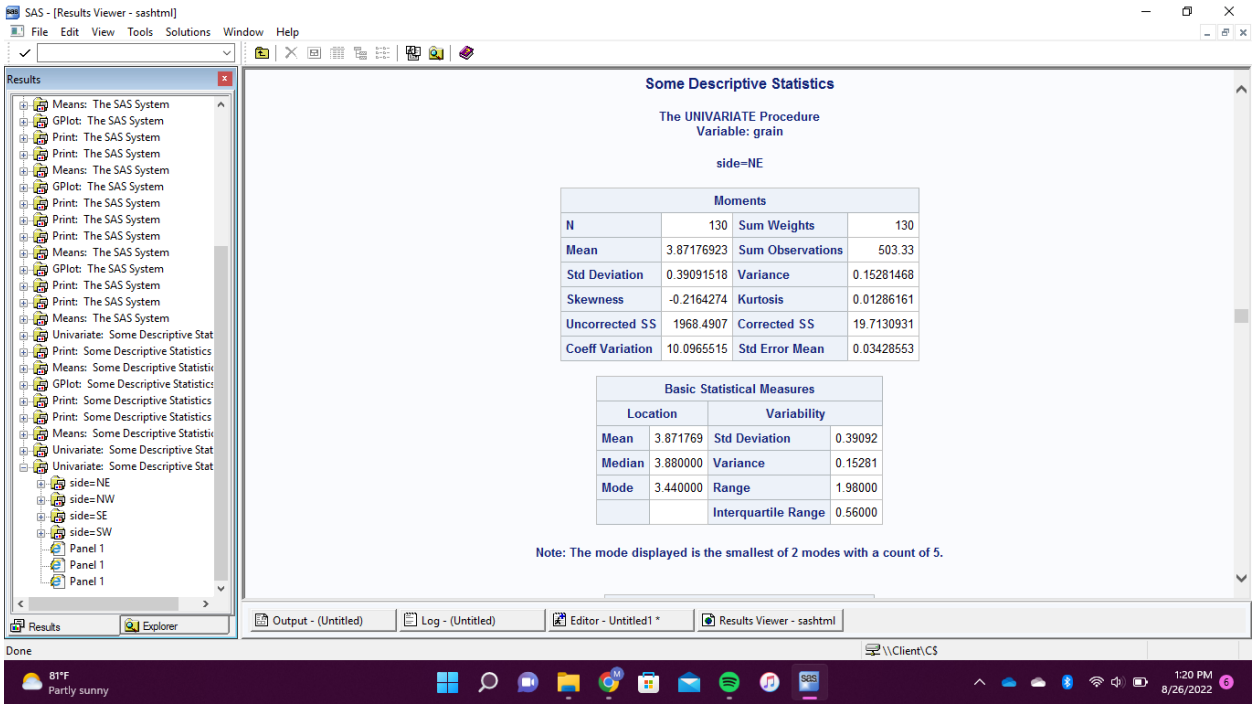
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Quantiles (Definition 5)
Level Quantile
100% Max 4.76
99% 4.73
95% 4.54
90% 4.34
75% Q3 4.20
50% Median 3.88
25% Q1 3.64
10% 3.43
5% 3.17
1% 2.84
0% Min 2.78
Extreme Observations
Lowest Highest
Value Obs Value Obs
2.78 117 4.58 1
2.84 120 4.58 13
2.97 101 4.59 37
3.05 97 4.73 39
3.09 30 4.76 38
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:20 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Print: The SAS System
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Print: The SAS System
Print: The SAS System
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Print: The SAS System
Means: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
Print: Some Descriptive Statistics
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
Univariate: Some Descriptive Stat
Univariate: Some Descriptive Stat
side=NE
side=NW
side=SE
side=SW
Panel 1
Panel 1
Panel 1
Results
Explorer
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: grain
side=NE
Moments
N 130 Sum Weights 130
Mean 3.87176923 Sum Observations 503.33
Std Deviation 0.39091518 Variance 0.15281468
Skewness -0.2164274 Kurtosis 0.01286161
Uncorrected SS 1968.4907 Corrected SS 19.7130931
Coeff Variation 10.0965515 Std Error Mean 0.03428553
Basic Statistical Measures
Location
Mean 3.871769
Median 3.880000
Mode 3.440000
Variability
Std Deviation 0.39092
Variance 0.15281
Range 1.98000
Interquartile Range 0.56000
Note: The mode displayed is the smallest of 2 modes with a count of 5.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
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- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
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- GPlot: The SAS System
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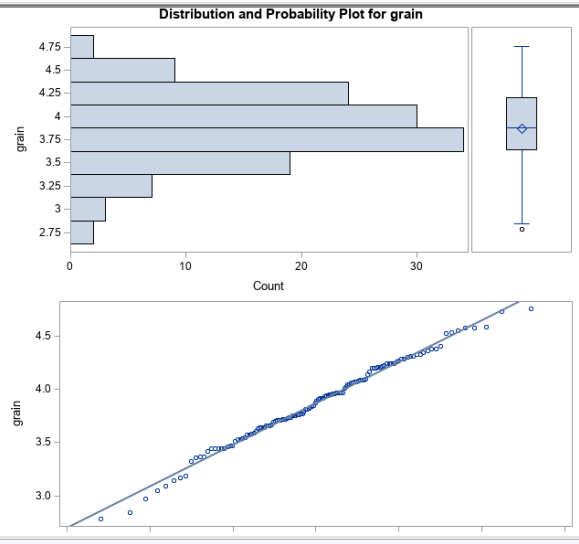
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

81°F Partly sunny

1:21 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
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- GPlot: The SAS System
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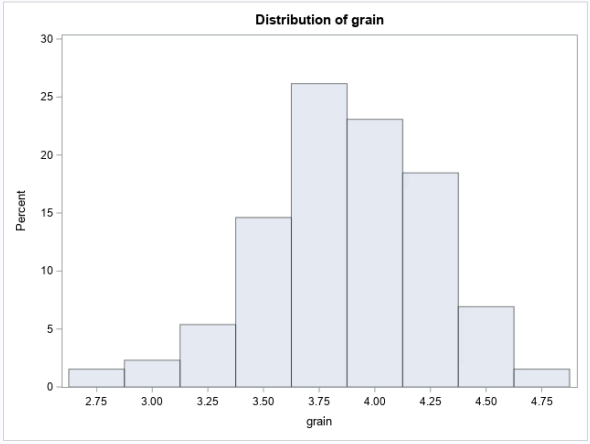
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

The UNIVARIATE Procedure

side=NE



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

81°F Partly sunny

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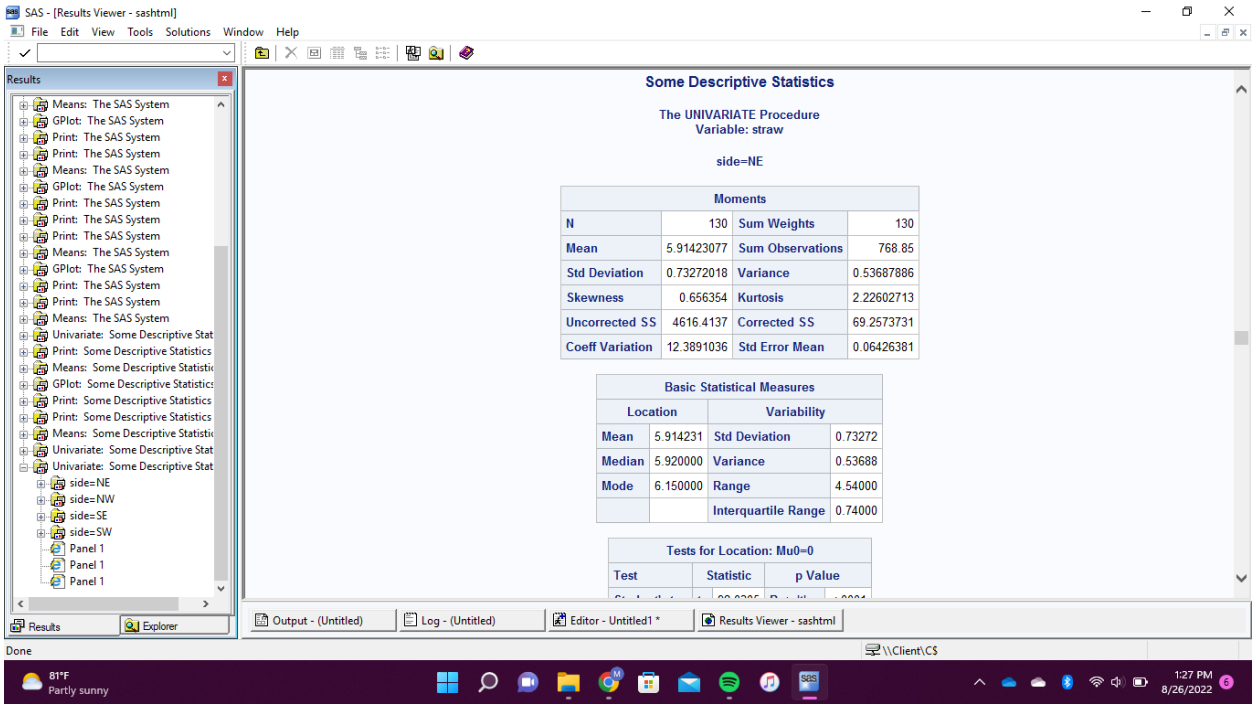
SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
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Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
Univariate: Some Descriptive Stat
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: straw
side=NE
Moments
N 130 Sum Weights 130
Mean 5.91423077 Sum Observations 768.85
Std Deviation 0.73272018 Variance 0.53687886
Skewness 0.656354 Kurtosis 2.22602713
Uncorrected SS 4616.4137 Corrected SS 69.2573731
Coeff Variation 12.3891036 Std Error Mean 0.06426381
Basic Statistical Measures
Location
Mean 5.914231
Median 5.920000
Mode 6.150000
Variability
Std Deviation 0.73272
Variance 0.53688
Range 4.54000
Interquartile Range 0.74000
Tests for Location: Mu0=0
Test Statistic p Value
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
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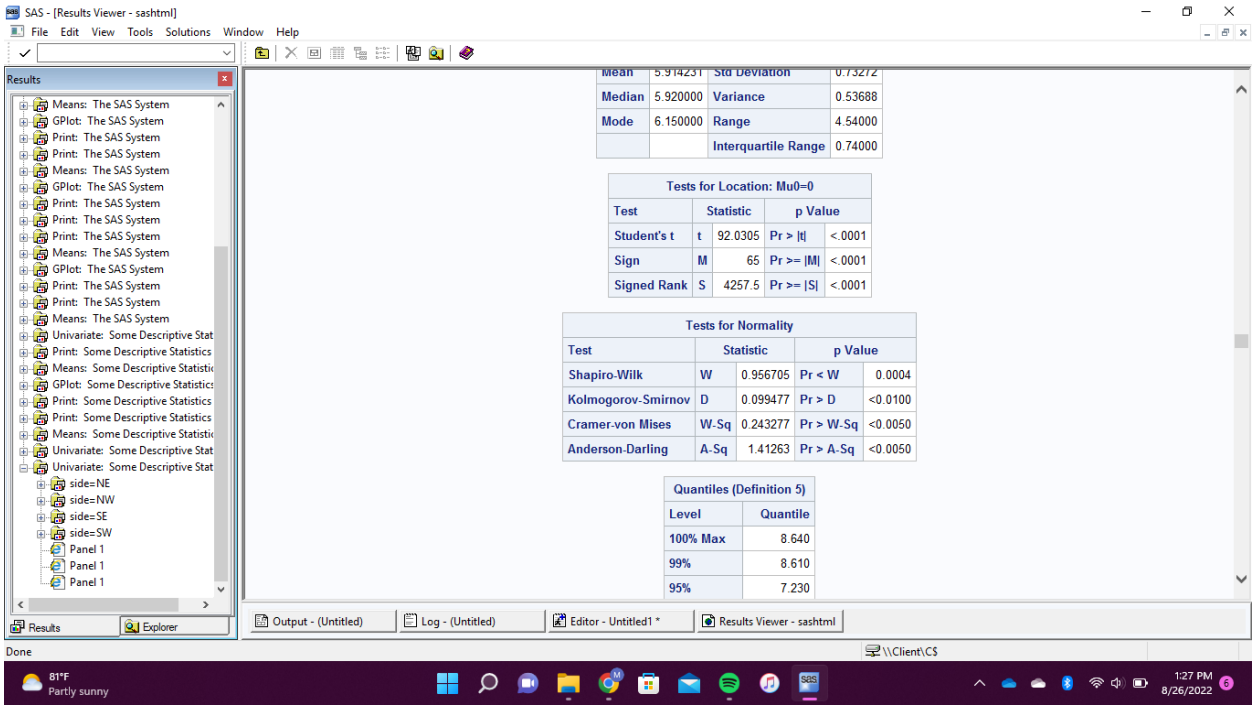
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
Univariate: Some Descriptive Stat
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Mean 5.914231 Std Deviation 0.73272
Median 5.920000 Variance 0.53688
Mode 6.150000 Range 4.54000
Interquartile Range 0.74000
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 92.0305 Pr > |t| <.0001
Sign M 65 Pr >= |M| <.0001
Signed Rank S 4257.5 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.956705 Pr < W 0.0004
Kolmogorov-Smirnov D 0.099477 Pr > D <0.0100
Cramer-von Mises W-Sq 0.243277 Pr > W-Sq <0.0050
Anderson-Darling A-Sq 1.41263 Pr > A-Sq <0.0050
Quantiles (Definition 5)
Level Quantile
100% Max 8.640
99% 8.610
95% 7.230
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
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- Means: The SAS System
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- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Quantiles (Definition 5)

Level	Quantile
100% Max	8.640
99%	8.610
95%	7.230
90%	6.760
75% Q3	6.240
50% Median	5.920
25% Q1	5.500
10%	5.025
5%	4.620
1%	4.280
0% Min	4.100

Extreme Observations

Lowest		Highest	
Value	Obs	Value	Obs
4.10	120	7.28	37
4.28	117	7.49	123
4.53	101	7.67	25
4.56	107	8.61	62
4.57	97	8.64	39

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
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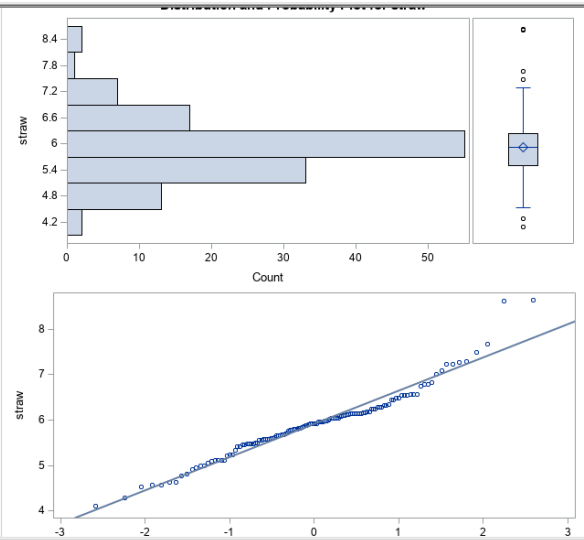
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

81°F Partly sunny 1:28 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
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- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
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- Means: The SAS System
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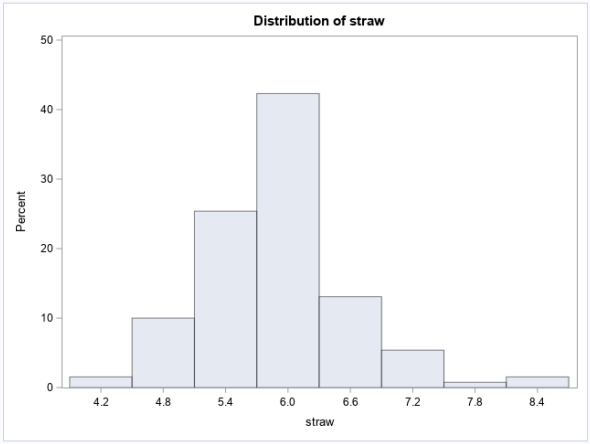
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

The UNIVARIATE Procedure

side=NE



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

81°F Partly sunny

1:28 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

The UNIVARIATE Procedure
Variable: YieldRatio

side=NE

Moments			
N	130	Sum Weights	130
Mean	0.65833163	Sum Observations	85.5831115
Std Deviation	0.05283372	Variance	0.0027914
Skewness	-0.6017018	Kurtosis	1.61879231
Uncorrected SS	56.7021599	Corrected SS	0.3600908
Coeff Variation	8.02539543	Std Error Mean	0.00463382

Basic Statistical Measures			
Location		Variability	
Mean	0.658332	Std Deviation	0.05283
Median	0.658375	Variance	0.00279
Mode	0.658375	Range	0.32929
		Interquartile Range	0.06727

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	142.0709	Pr > |t|	<.0001
Sign	M	65	Pr >= |M|	<.0001

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

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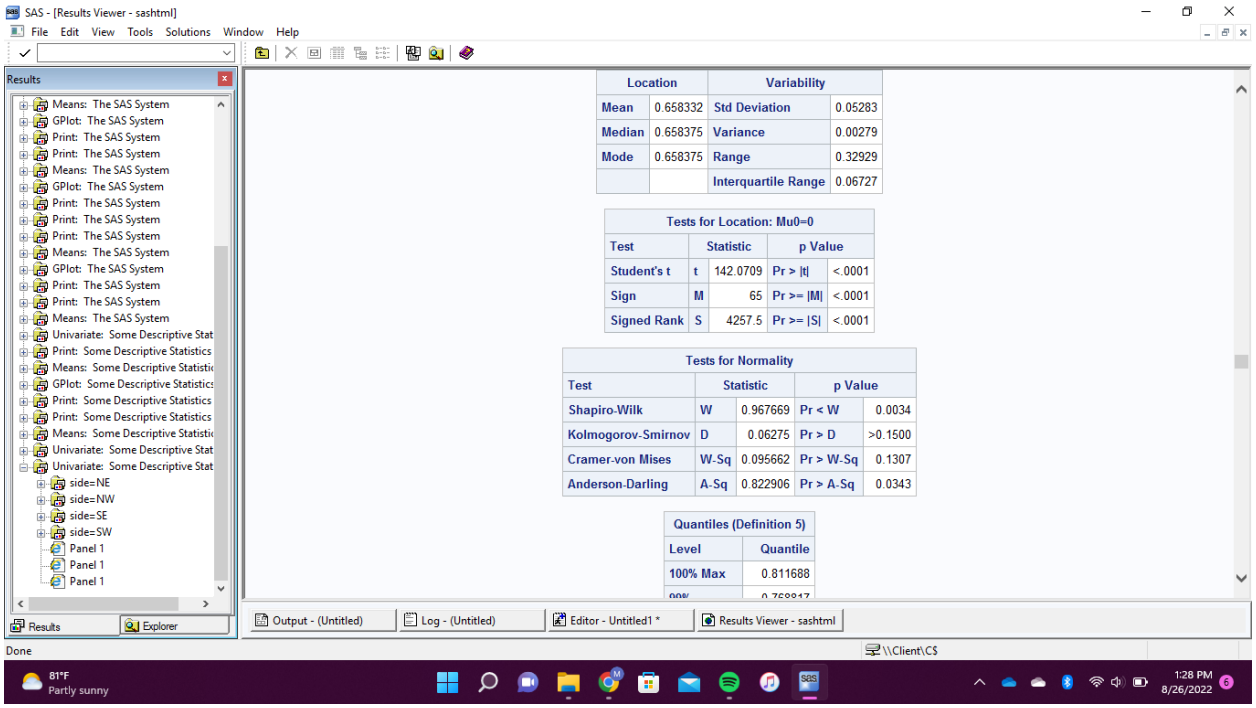
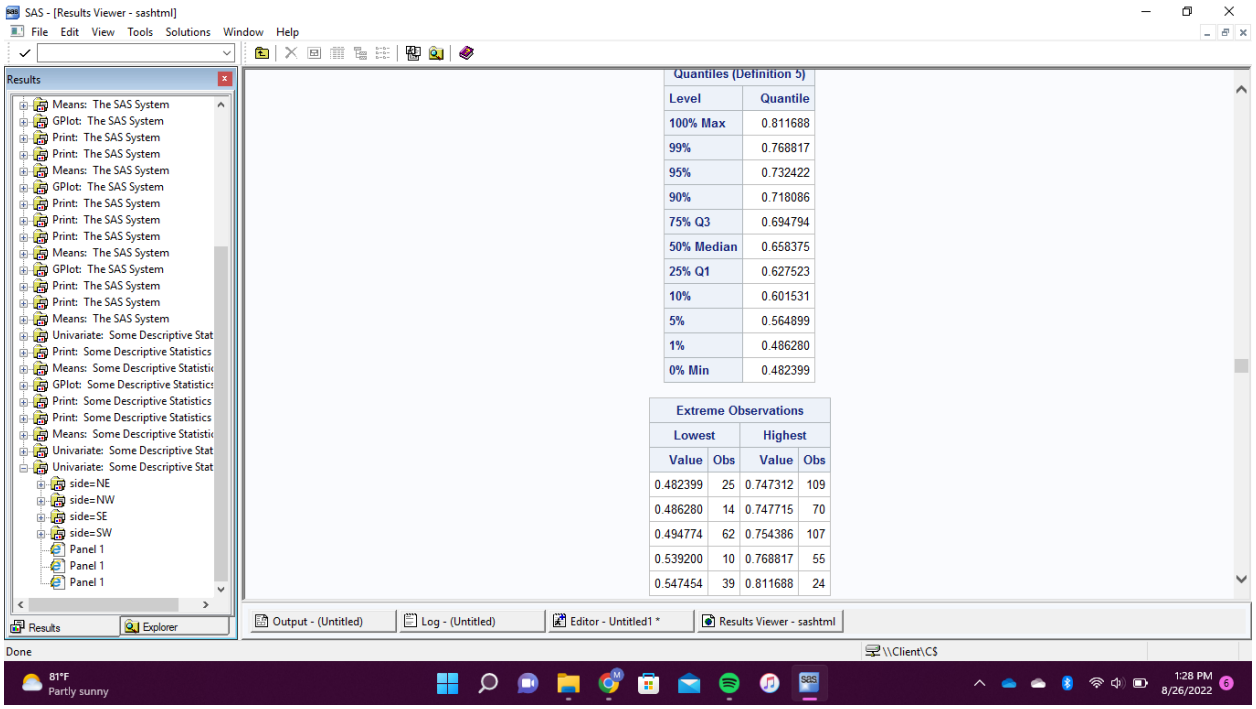


Location		Variability	
Mean	0.658332	Std Deviation	0.05283
Median	0.658375	Variance	0.00279
Mode	0.658375	Range	0.32929
		Interquartile Range	0.06727

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	142.0709	Pr > |t|	<.0001
Sign	M	65	Pr >= |M|	<.0001
Signed Rank	S	4257.5	Pr >= |S|	<.0001

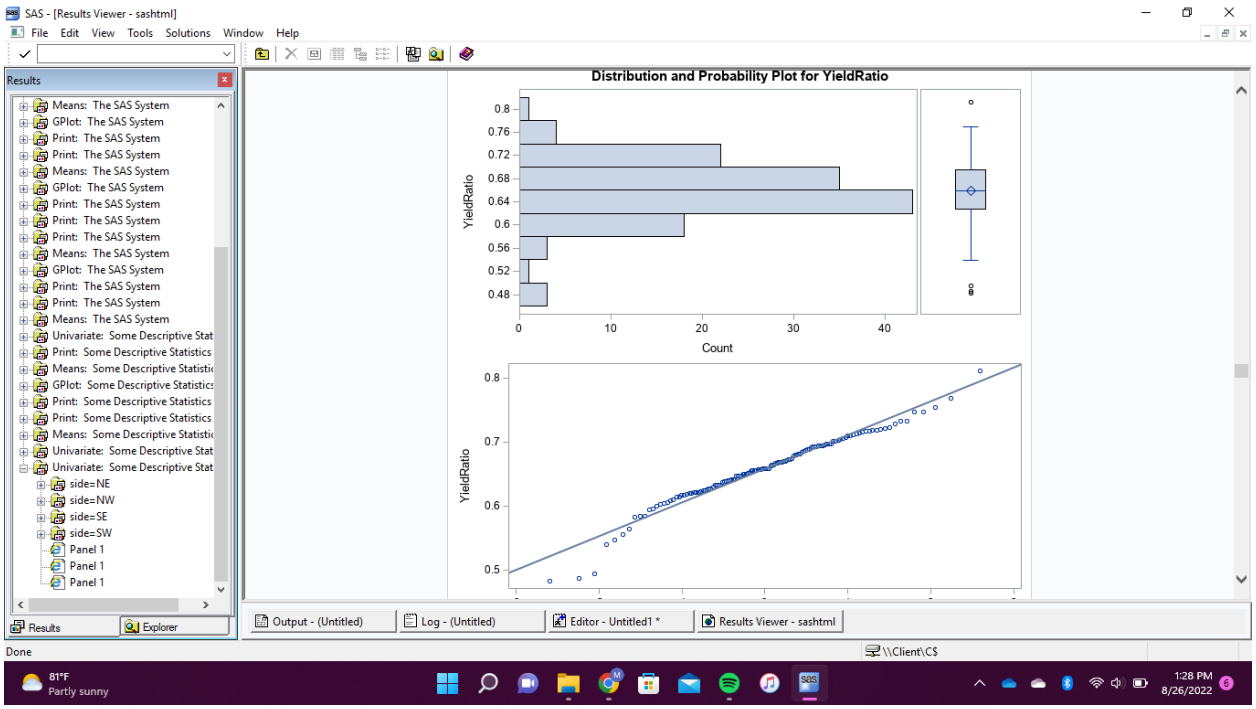
Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.967669	Pr < W	0.0034
Kolmogorov-Smirnov	D	0.06275	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.095662	Pr > W-Sq	0.1307
Anderson-Darling	A-Sq	0.822906	Pr > A-Sq	0.0343

Quantiles (Definition 5)	
Level	Quantile
100% Max	0.811688
99%	0.768817



Quantiles (Definition 5)	
Level	Quantile
100% Max	0.811688
99%	0.768817
95%	0.732422
90%	0.718086
75% Q3	0.694794
50% Median	0.658375
25% Q1	0.627523
10%	0.601531
5%	0.564899
1%	0.486280
0% Min	0.482399

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0.482399	25	0.747312	109
0.486280	14	0.747715	70
0.494774	62	0.754386	107
0.539200	10	0.768817	55
0.547454	39	0.811688	24


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Distribution and Probability Plot for YieldRatio
YieldRatio
Count
YieldRatio
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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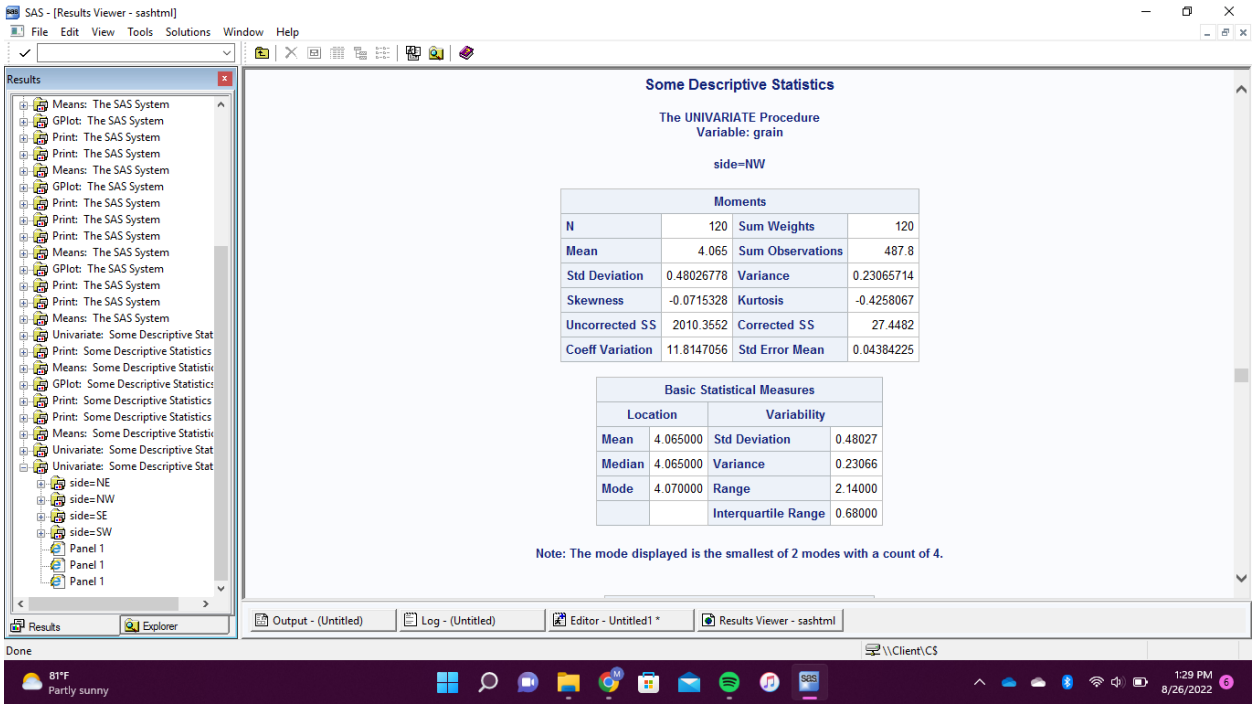
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: grain
side=NW
Moments
N 120 Sum Weights 120
Mean 4.065 Sum Observations 487.8
Std Deviation 0.48026778 Variance 0.23065714
Skewness -0.0715328 Kurtosis -0.4258067
Uncorrected SS 2010.3552 Corrected SS 27.4482
Coeff Variation 11.8147056 Std Error Mean 0.04384225
Basic Statistical Measures
Location Variability
Mean 4.065000 Std Deviation 0.48027
Median 4.065000 Variance 0.23066
Mode 4.070000 Range 2.14000
Interquartile Range 0.68000
Note: The mode displayed is the smallest of 2 modes with a count of 4.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
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- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Tests for Normality

Test	Statistic		p Value	
Shapiro-Wilk	W	0.990743	Pr < W	0.6023
Kolmogorov-Smirnov	D	0.038805	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.032406	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.210124	Pr > A-Sq	>0.2500

Quantiles (Definition 5)

Level	Quantile
100% Max	5.130
99%	5.070
95%	4.890
90%	4.665
75% Q3	4.410
50% Median	4.065
25% Q1	3.730
10%	3.410
5%	3.230
1%	3.040
0% Min	2.990

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
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- Means: The SAS System
- GPlot: The SAS System
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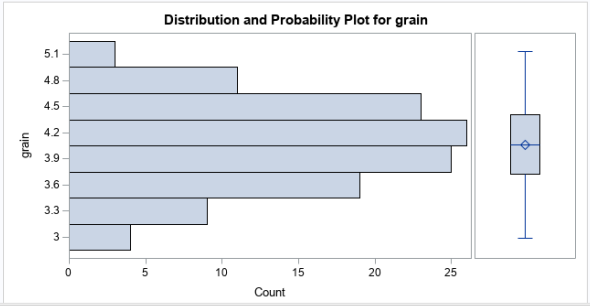
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Extreme Observations

Lowest		Highest	
Value	Obs	Value	Obs
2.99	209	4.93	228
3.04	248	4.94	197
3.04	171	5.02	229
3.05	214	5.07	225
3.16	136	5.13	161



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

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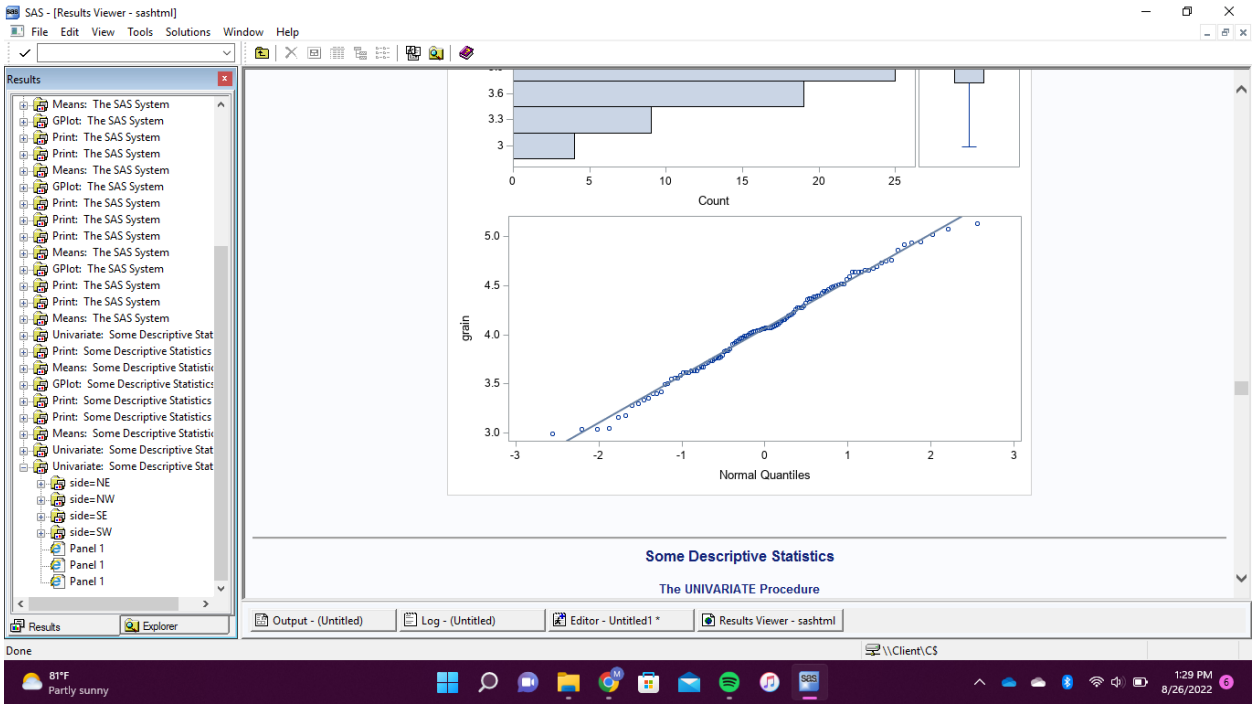
SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
3.6
3.3
3
0
5
10
15
20
25
Count
grain
5.0
4.5
4.0
3.5
3.0
-3
-2
-1
0
1
2
3
Normal Quantiles
Some Descriptive Statistics
The UNIVARIATE Procedure
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
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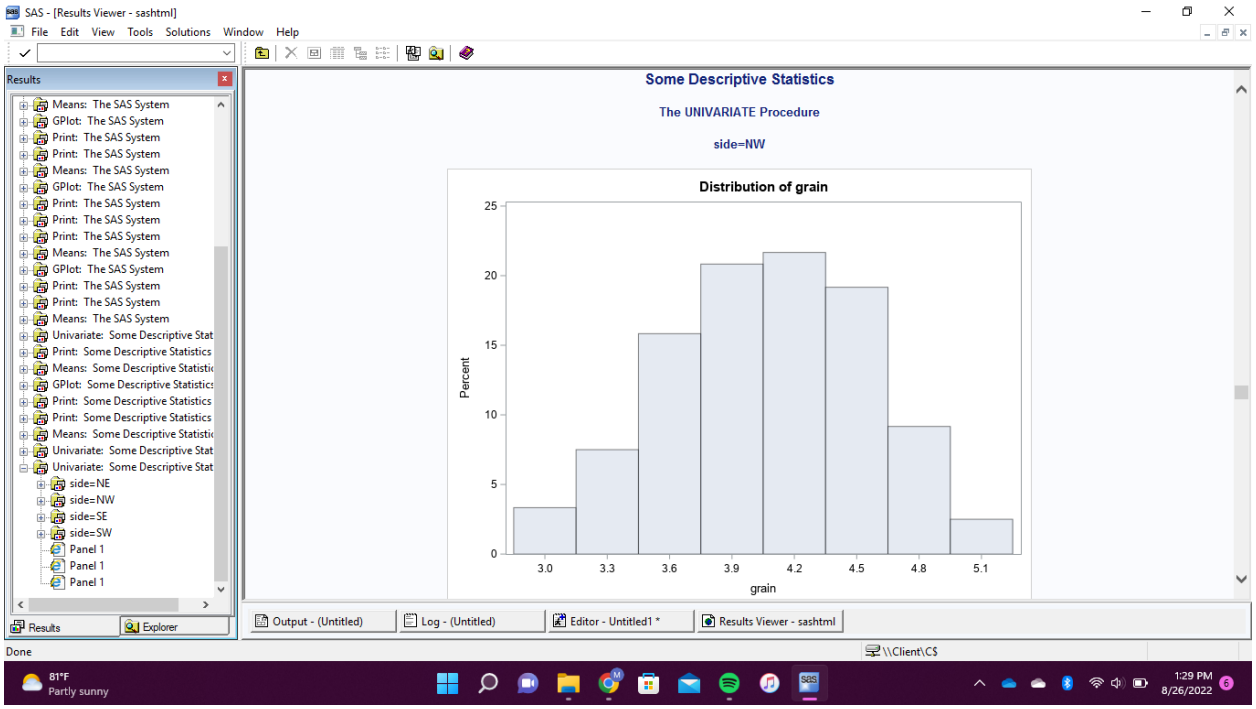
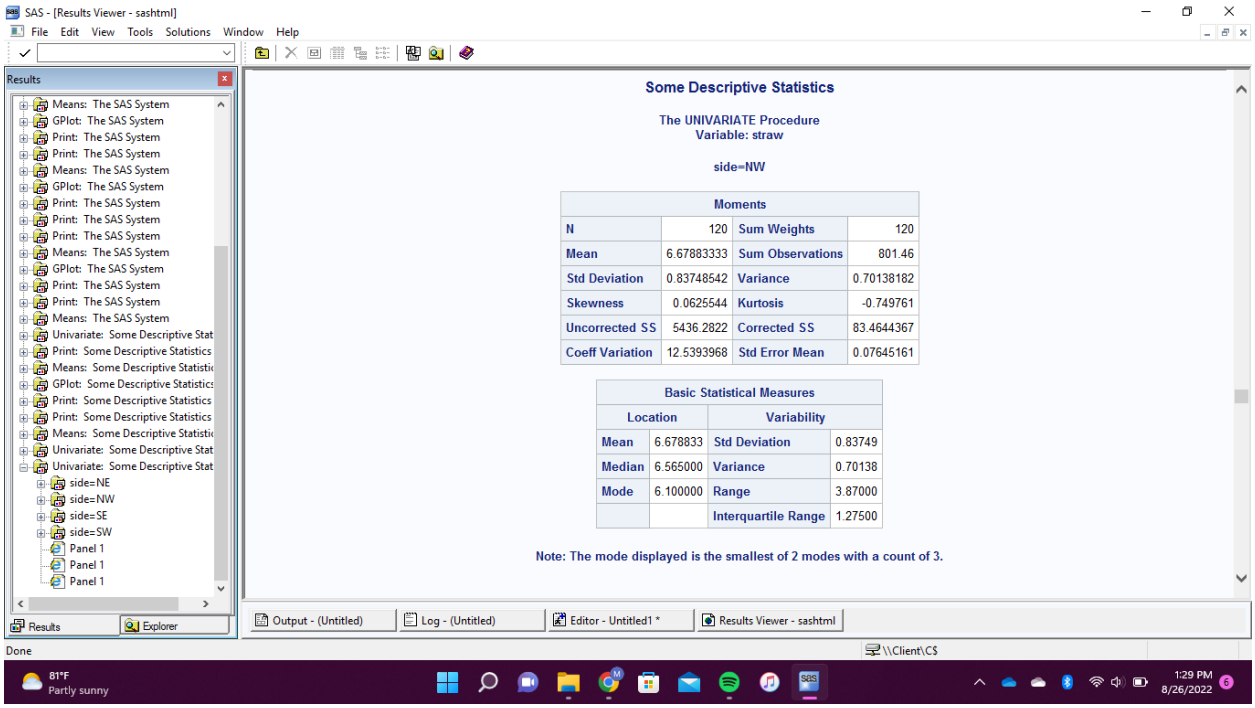
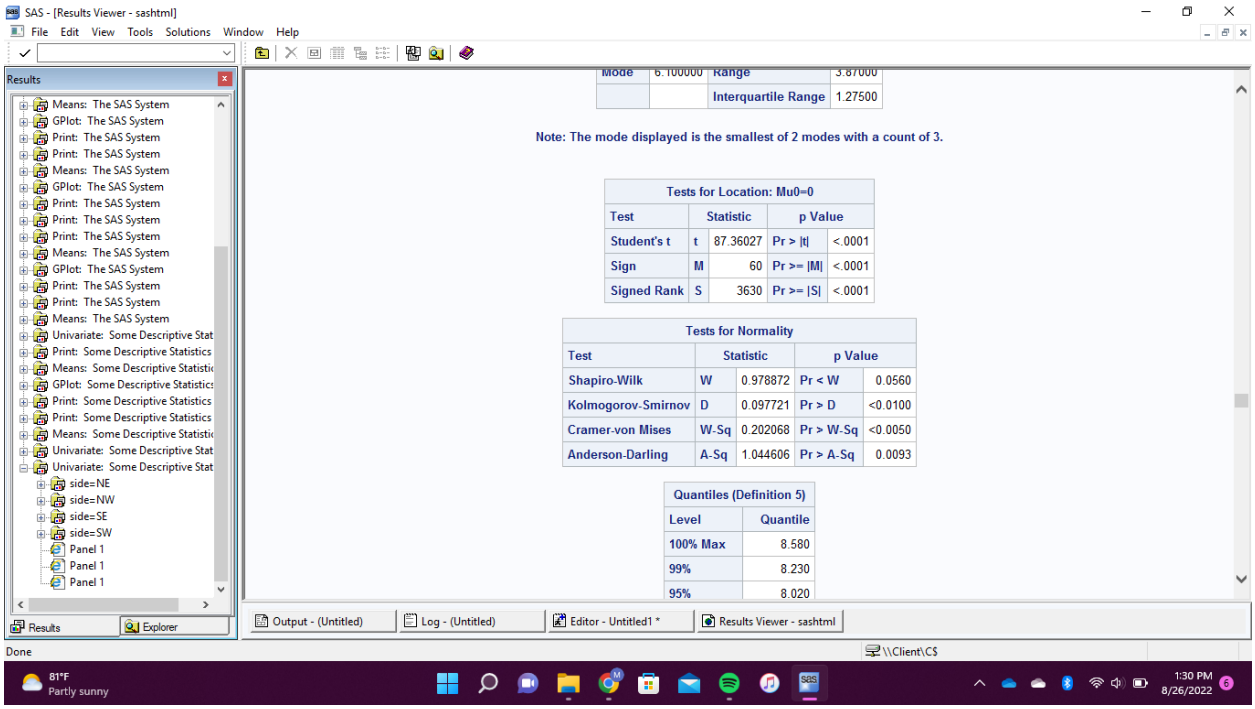
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Some Descriptive Statistics
The UNIVARIATE Procedure
side=NW
Distribution of grain
Percent
25
20
15
10
5
0
3.0
3.3
3.6
3.9
4.2
4.5
4.8
5.1
grain
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:29 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: straw
side=NW
Moments
N 120 Sum Weights 120
Mean 6.67883333 Sum Observations 801.46
Std Deviation 0.83748542 Variance 0.70138182
Skewness 0.0625544 Kurtosis -0.749761
Uncorrected SS 5436.2822 Corrected SS 83.4644367
Coeff Variation 12.5393968 Std Error Mean 0.07645161
Basic Statistical Measures
Location
Mean 6.678833
Median 6.565000
Mode 6.100000
Variability
Std Deviation 0.83749
Variance 0.70138
Range 3.87000
Interquartile Range 1.27500
Note: The mode displayed is the smallest of 2 modes with a count of 3.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:29 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Mode 6.100000
Range 3.87000
Interquartile Range 1.27500
Note: The mode displayed is the smallest of 2 modes with a count of 3.
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 87.36027 Pr > |t| <.0001
Sign M 60 Pr >= |M| <.0001
Signed Rank S 3630 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.978872 Pr < W 0.0560
Kolmogorov-Smirnov D 0.097721 Pr > D <0.0100
Cramer-von Mises W-Sq 0.202068 Pr > W-Sq <0.0050
Anderson-Darling A-Sq 1.044606 Pr > A-Sq 0.0093
Quantiles (Definition 5)
Level Quantile
100% Max 8.580
99% 8.230
95% 8.020
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
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8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
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- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Quantiles (Definition 5)

Level	Quantile
100% Max	8.580
99%	8.230
95%	8.020
90%	7.870
75% Q3	7.330
50% Median	6.565
25% Q1	6.055
10%	5.680
5%	5.435
1%	4.960
0% Min	4.710

Extreme Observations

Lowest		Highest	
Value	Obs	Value	Obs
4.71	171	8.06	197
4.96	248	8.18	193
4.97	177	8.23	144
5.07	209	8.23	229
5.32	137	8.58	155

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done \\Client\C$

81°F Partly sunny 1:30 PM 8/26/2022

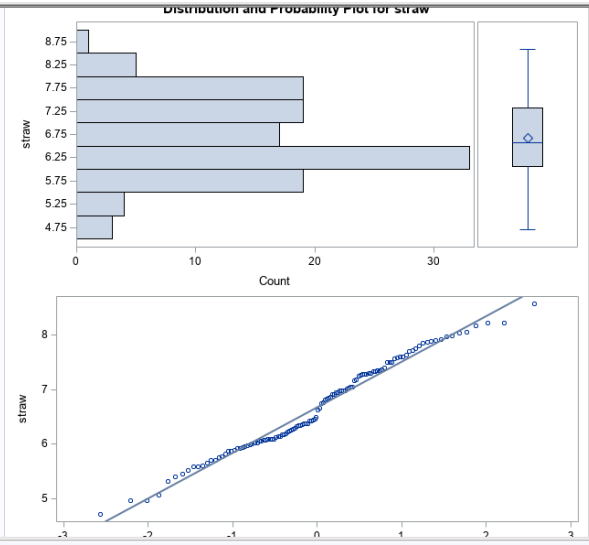
SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

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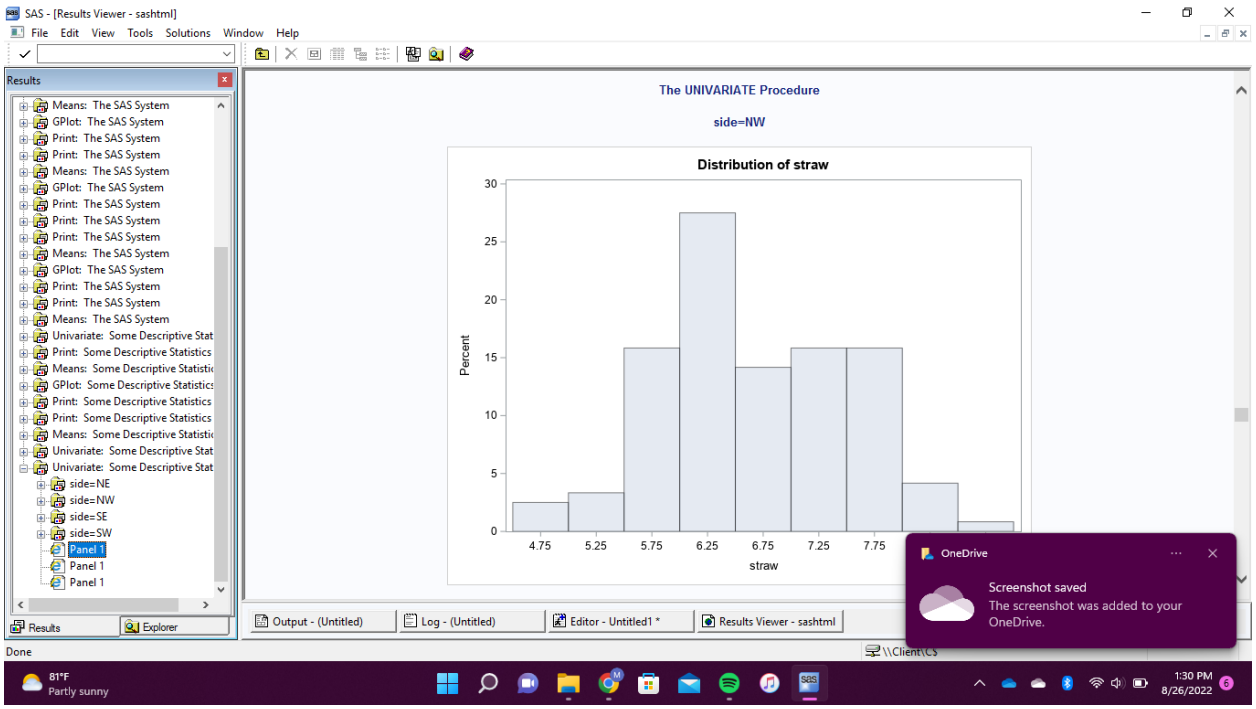
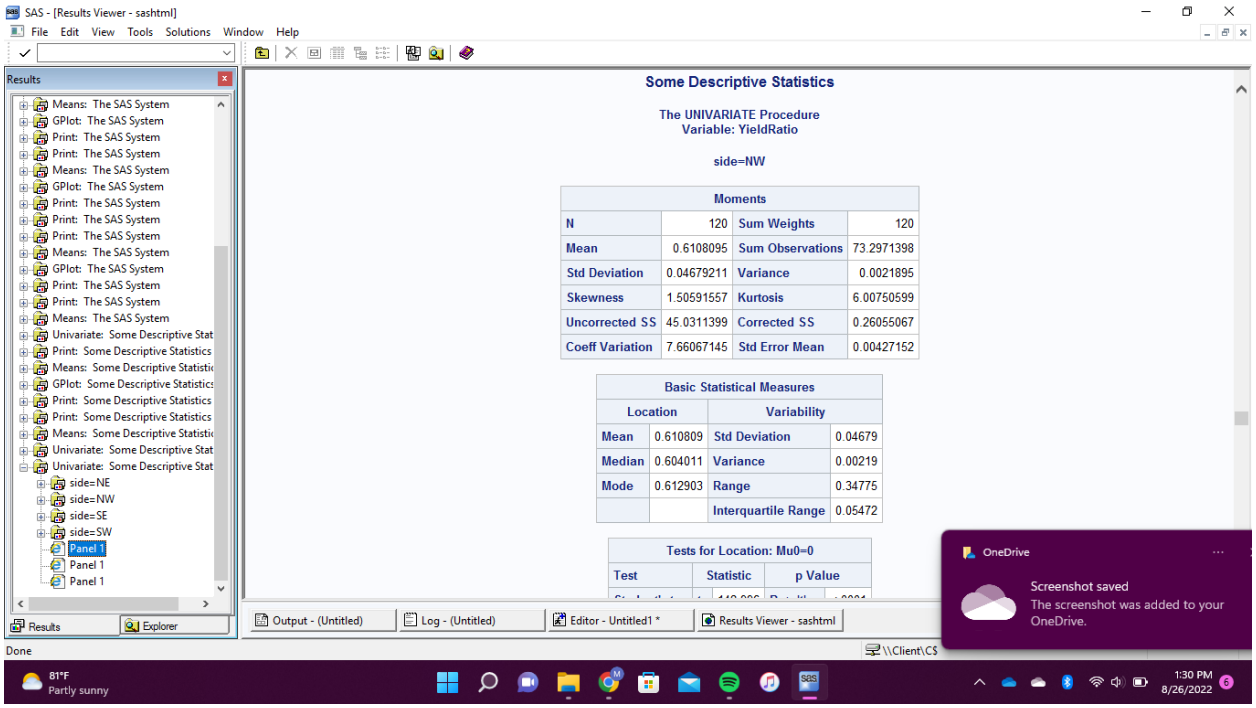
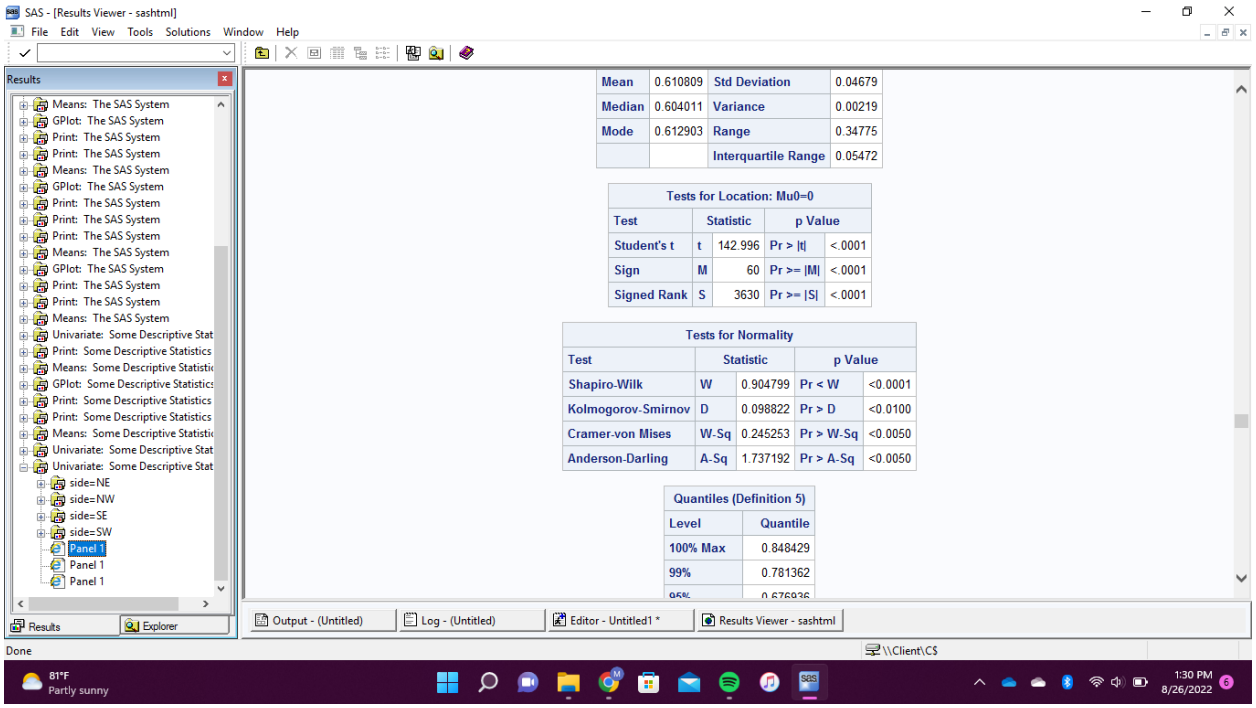

SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
The UNIVARIATE Procedure
side=NW
Distribution of straw
Percent
straw
4.75
5.25
5.75
6.25
6.75
7.25
7.75
OneDrive
Screenshot saved
The screenshot was added to your OneDrive.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
81°F
Partly sunny
1:30 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: YieldRatio
side=NW
Moments
N 120 Sum Weights 120
Mean 0.6108095 Sum Observations 73.2971398
Std Deviation 0.04679211 Variance 0.0021895
Skewness 1.50591557 Kurtosis 6.00750599
Uncorrected SS 45.0311399 Corrected SS 0.26055067
Coeff Variation 7.66067145 Std Error Mean 0.00427152
Basic Statistical Measures
Location
Mean 0.610809
Median 0.604011
Mode 0.612903
Variability
Std Deviation 0.04679
Variance 0.00219
Range 0.34775
Interquartile Range 0.05472
Tests for Location: Mu0=0
Test
Statistic
p Value
OneDrive
Screenshot saved
The screenshot was added to your OneDrive.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
81°F
Partly sunny
1:30 PM
8/26/2022

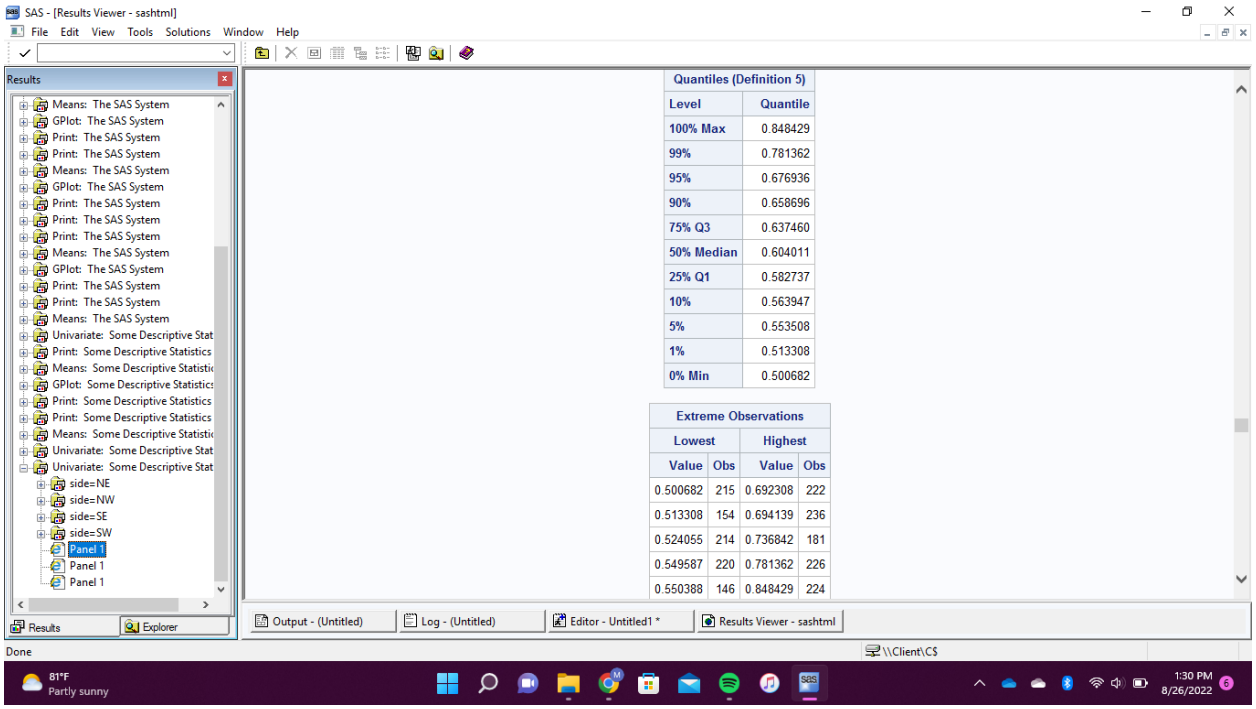


Mean	0.610809	Std Deviation	0.04679
Median	0.604011	Variance	0.00219
Mode	0.612903	Range	0.34775
		Interquartile Range	0.05472

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	142.996	Pr > |t|	<.0001
Sign	M	60	Pr >= |M|	<.0001
Signed Rank	S	3630	Pr >= |S|	<.0001

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.904799	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.098822	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.245253	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	1.737192	Pr > A-Sq	<0.0050

Quantiles (Definition 5)	
Level	Quantile
100% Max	0.848429
99%	0.781362
95%	0.676936



Quantiles (Definition 5)	
Level	Quantile
100% Max	0.848429
99%	0.781362
95%	0.676936
90%	0.658696
75% Q3	0.637460
50% Median	0.604011
25% Q1	0.582737
10%	0.563947
5%	0.553508
1%	0.513308
0% Min	0.500682

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0.500682	215	0.692308	222
0.513308	154	0.694139	236
0.524055	214	0.736842	181
0.549587	220	0.781362	226
0.550388	146	0.848429	224

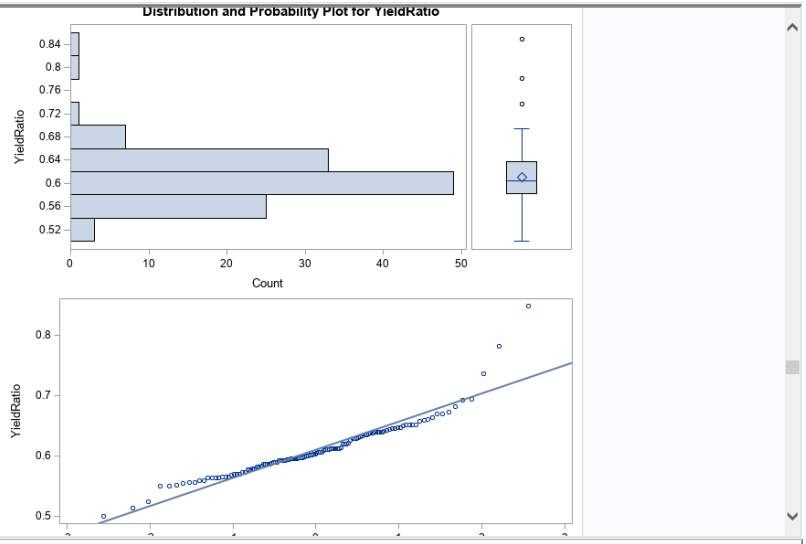
SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

81°F Partly sunny

1:31 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Some Descriptive Statistics

The UNIVARIATE Procedure
Variable: grain

side=SE

Moments			
N	130	Sum Weights	130
Mean	3.70284615	Sum Observations	481.37
Std Deviation	0.40694787	Variance	0.16560657
Skewness	0.2388757	Kurtosis	-0.1824228
Uncorrected SS	1803.8023	Corrected SS	21.3632469
Coeff Variation	10.990137	Std Error Mean	0.03569169

Basic Statistical Measures			
Location		Variability	
Mean	3.702846	Std Deviation	0.40695
Median	3.685000	Variance	0.16561
Mode	3.290000	Range	2.13000
		Interquartile Range	0.52000

Note: The mode displayed is the smallest of 3 modes with a count of 4.

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

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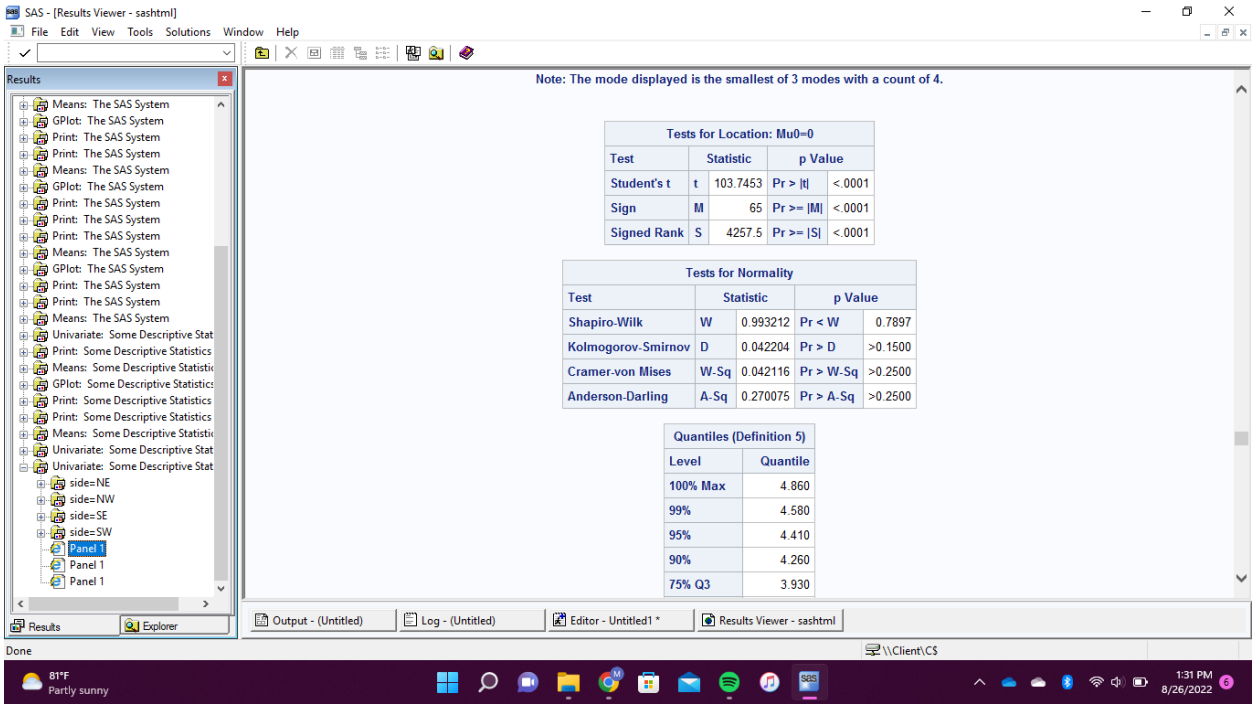
SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Note: The mode displayed is the smallest of 3 modes with a count of 4.
Tests for Location: Mu0=0
Test | Statistic | | p Value | |
Student's t | t | 103.7453 | Pr > |t| | <.0001
Sign | M | 65 | Pr >= |M| | <.0001
Signed Rank | S | 4257.5 | Pr >= |S| | <.0001
Tests for Normality
Test | Statistic | | p Value | |
Shapiro-Wilk | W | 0.993212 | Pr < W | 0.7897
Kolmogorov-Smirnov | D | 0.042204 | Pr > D | >0.1500
Cramer-von Mises | W-Sq | 0.042116 | Pr > W-Sq | >0.2500
Anderson-Darling | A-Sq | 0.270075 | Pr > A-Sq | >0.2500
Quantiles (Definition 5)
Level | Quantile
100% Max | 4.860
99% | 4.580
95% | 4.410
90% | 4.260
75% Q3 | 3.930
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
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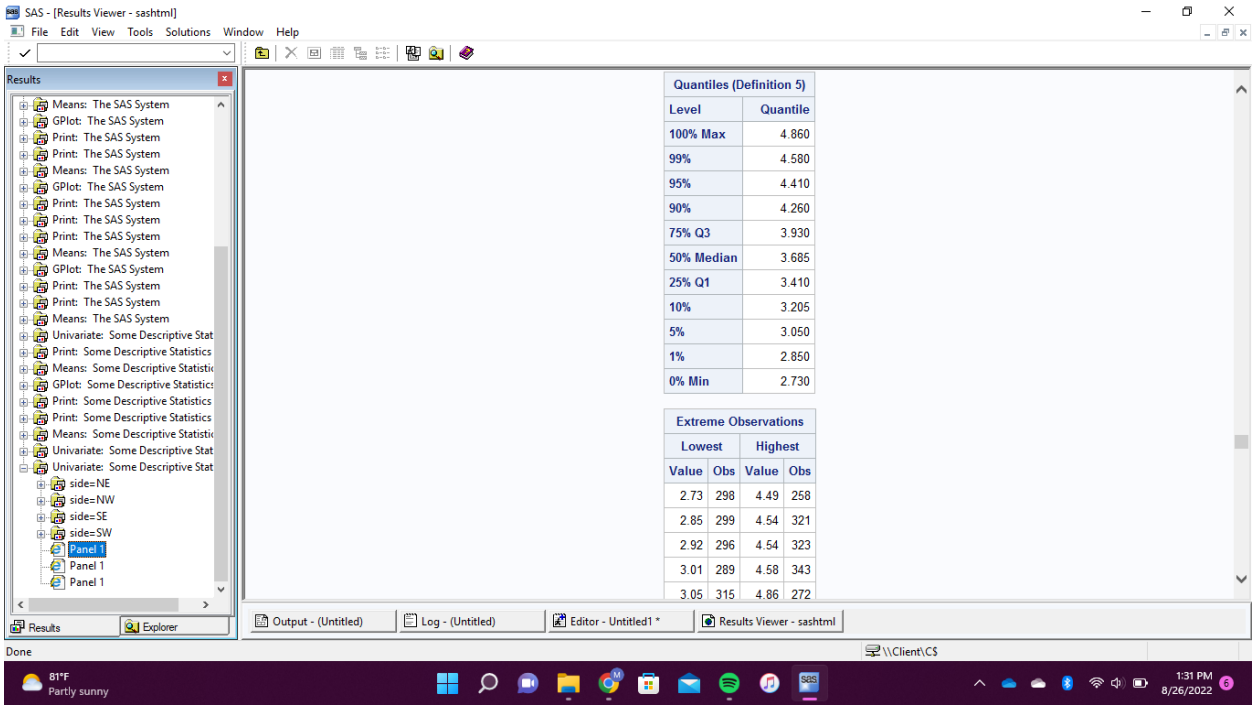
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Quantiles (Definition 5)
Level | Quantile
100% Max | 4.860
99% | 4.580
95% | 4.410
90% | 4.260
75% Q3 | 3.930
50% Median | 3.685
25% Q1 | 3.410
10% | 3.205
5% | 3.050
1% | 2.850
0% Min | 2.730
Extreme Observations
Lowest | | Highest |
Value | Obs | Value | Obs
2.73 | 298 | 4.49 | 258
2.85 | 299 | 4.54 | 321
2.92 | 296 | 4.54 | 323
3.01 | 289 | 4.58 | 343
3.05 | 315 | 4.86 | 272
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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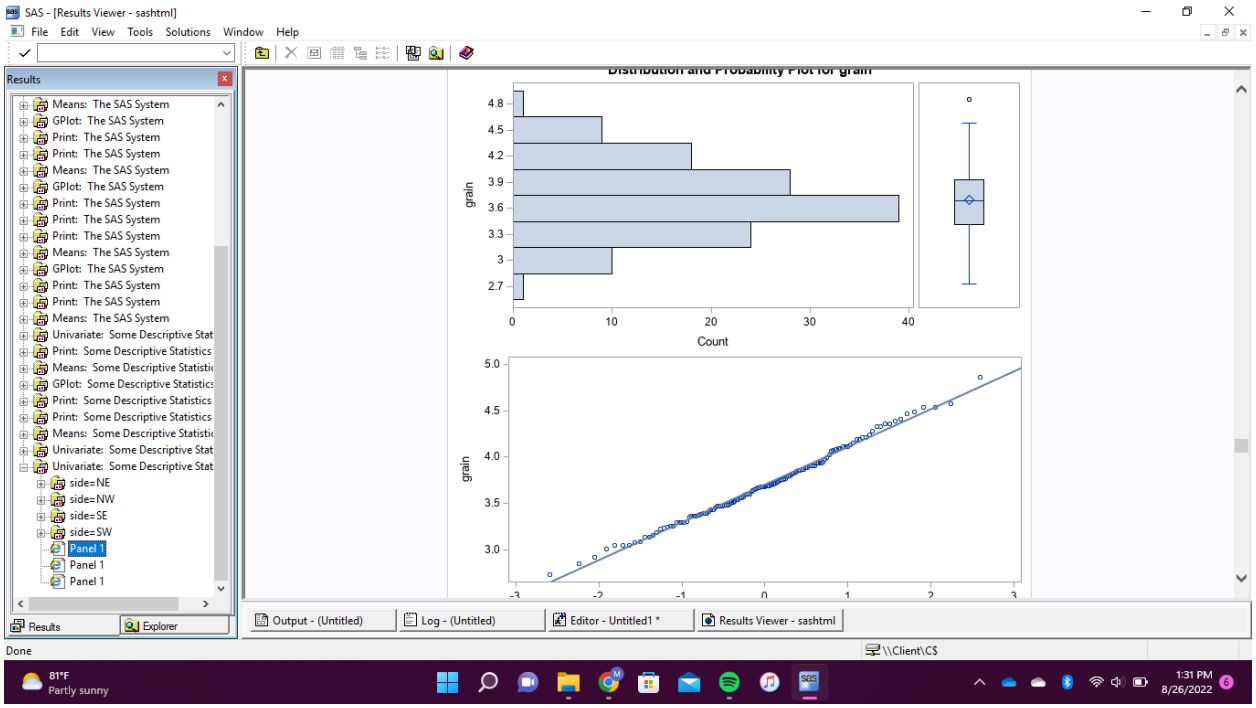
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Distribution and Probability Plot for grain
grain
Count
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
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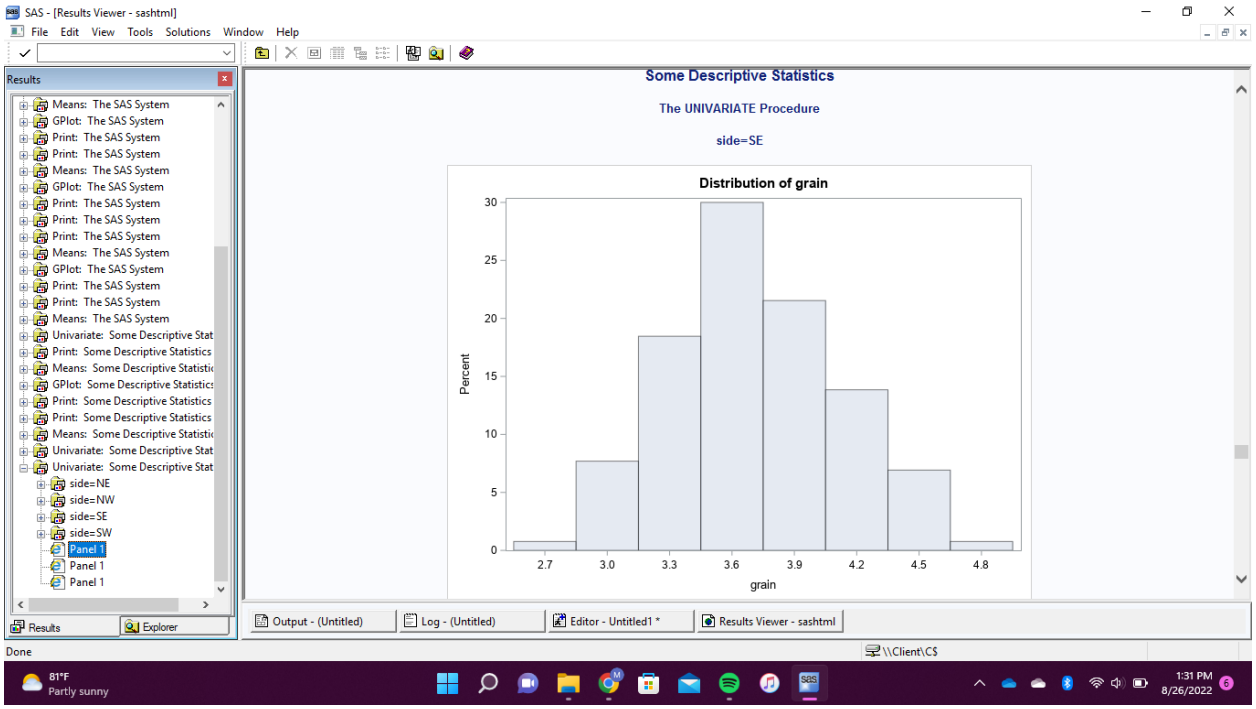
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Some Descriptive Statistics
The UNIVARIATE Procedure
side=SE
Distribution of grain
Percent
grain
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
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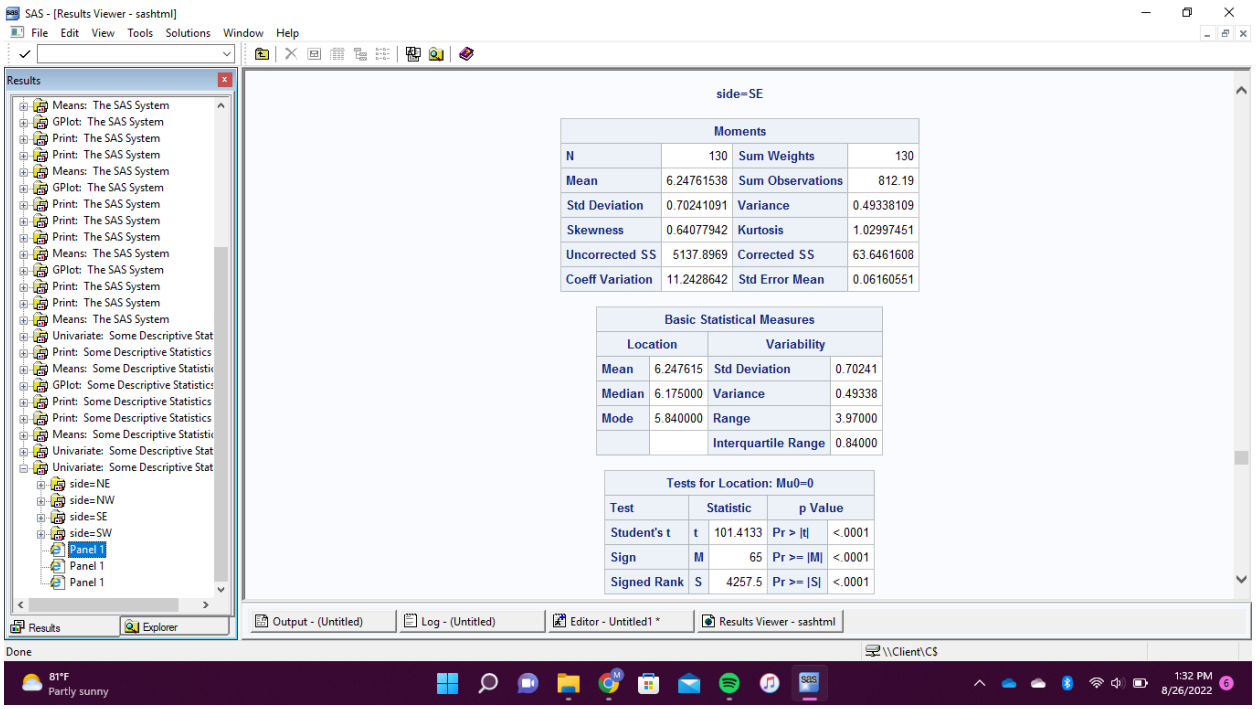
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Panel 1
Panel 1
Results
Explorer
side=SE
Moments
N 130 Sum Weights 130
Mean 6.24761538 Sum Observations 812.19
Std Deviation 0.70241091 Variance 0.49338109
Skewness 0.64077942 Kurtosis 1.02997451
Uncorrected SS 5137.8969 Corrected SS 63.6461608
Coeff Variation 11.2428642 Std Error Mean 0.06160551
Basic Statistical Measures
Location
Mean 6.247615
Median 6.175000
Mode 5.840000
Variability
Std Deviation 0.70241
Variance 0.49338
Range 3.97000
Interquartile Range 0.84000
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 101.4133 Pr > |t| <.0001
Sign M 65 Pr >= |M| <.0001
Signed Rank S 4257.5 Pr >= |S| <.0001
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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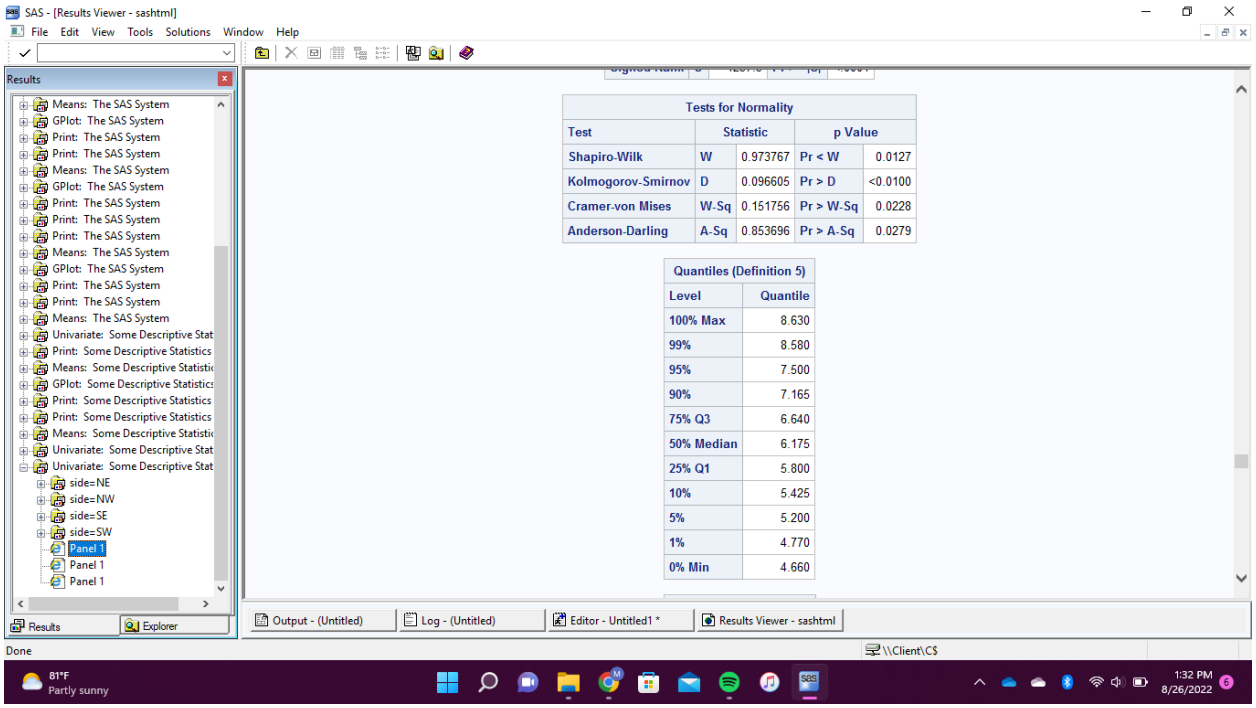
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Panel 1
Panel 1
Results
Explorer
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.973767 Pr < W 0.0127
Kolmogorov-Smirnov D 0.096605 Pr > D <0.0100
Cramer-von Mises W-Sq 0.151756 Pr > W-Sq 0.0228
Anderson-Darling A-Sq 0.853696 Pr > A-Sq 0.0279
Quantiles (Definition 5)
Level Quantile
100% Max 8.630
99% 8.580
95% 7.500
90% 7.165
75% Q3 6.640
50% Median 6.175
25% Q1 5.800
10% 5.425
5% 5.200
1% 4.770
0% Min 4.660
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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Partly sunny
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8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
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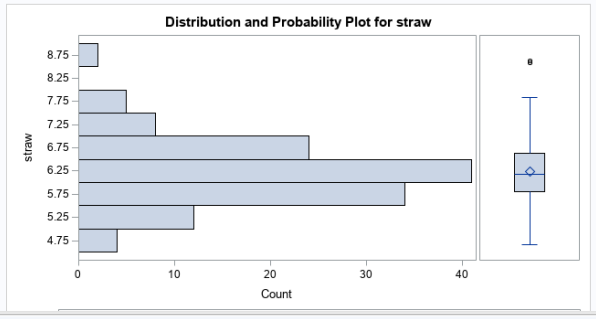
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer

Extreme Observations

Lowest		Highest	
Value	Obs	Value	Obs
4.66	360	7.64	297
4.77	298	7.72	253
4.95	296	7.84	322
4.96	299	8.58	275
5.05	262	8.63	281



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
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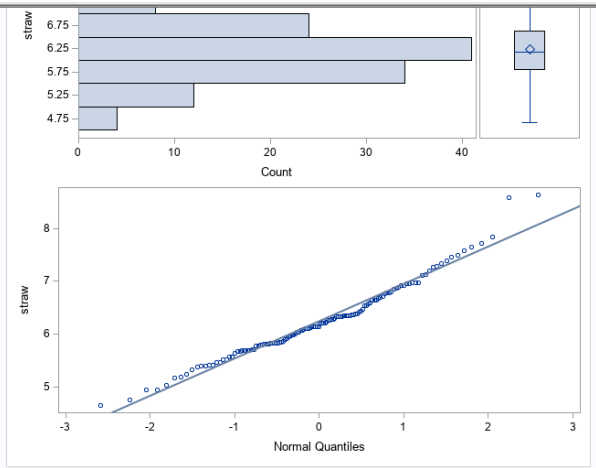
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
  - Panel 1
  - Panel 1
  - Panel 1

Results | Explorer



Some Descriptive Statistics

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

81°F Partly sunny

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
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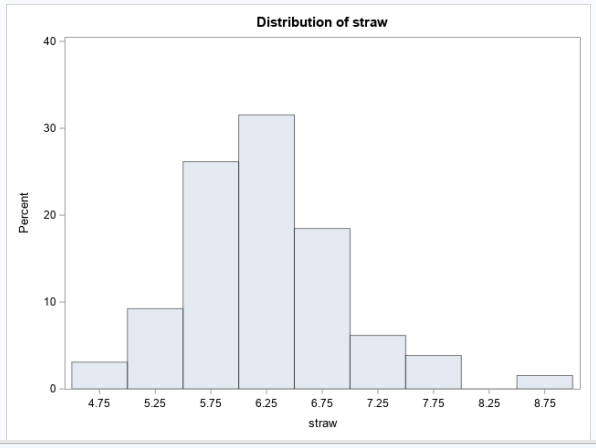
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
    - Panel 1
    - Panel 1
    - Panel 1

Results | Explorer

Some Descriptive Statistics

The UNIVARIATE Procedure

side=SE



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
    - Panel 1
    - Panel 1
    - Panel 1

Results | Explorer

Some Descriptive Statistics

The UNIVARIATE Procedure
Variable: YieldRatio

side=SE

Moments			
N	130	Sum Weights	130
Mean	0.59525907	Sum Observations	77.3836793
Std Deviation	0.05448794	Variance	0.00296894
Skewness	0.20933813	Kurtosis	3.13913713
Uncorrected SS	46.4463298	Corrected SS	0.38299275
Coeff Variation	9.153652	Std Error Mean	0.00477891

Basic Statistical Measures			
Location		Variability	
Mean	0.595259	Std Deviation	0.05449
Median	0.591651	Variance	0.00297
Mode	0.576182	Range	0.37117
		Interquartile Range	0.04873

Note: The mode displayed is the smallest of 5 modes with a count of 2.

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

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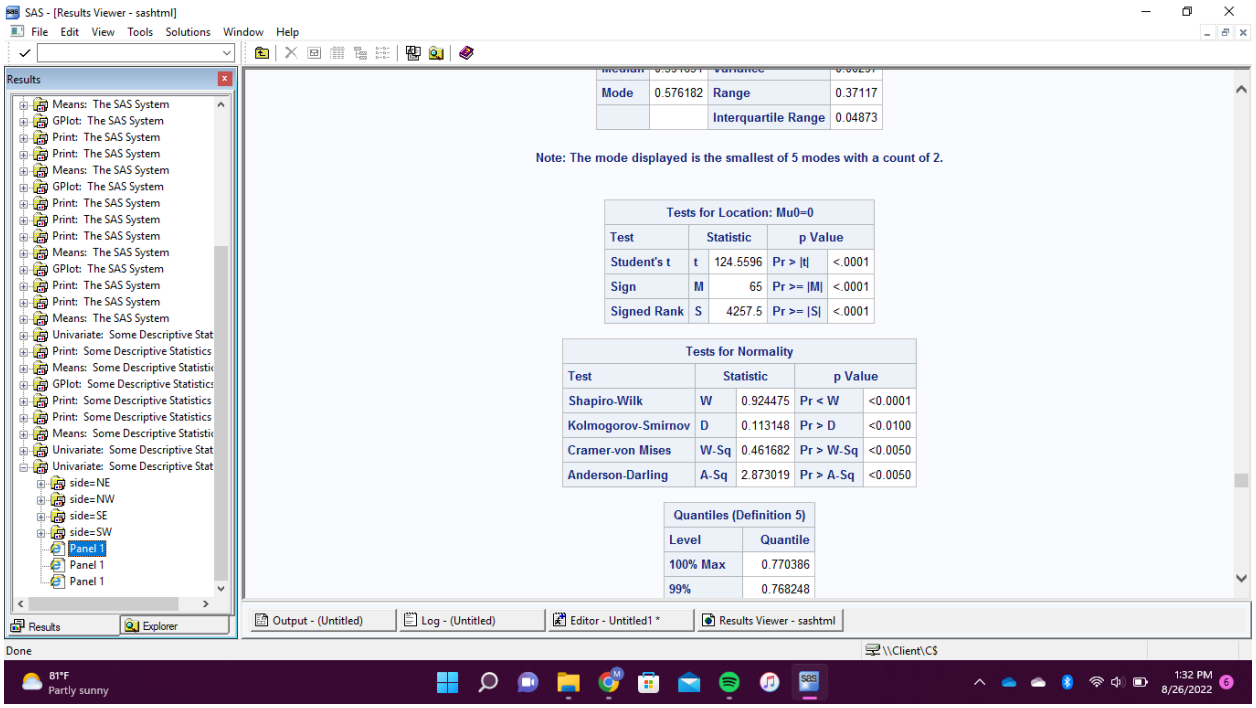
SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Mode 0.576182 Range 0.37117
Interquartile Range 0.04873
Note: The mode displayed is the smallest of 5 modes with a count of 2.
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 124.5596 Pr > |t| <.0001
Sign M 65 Pr >= |M| <.0001
Signed Rank S 4257.5 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.924475 Pr < W <0.0001
Kolmogorov-Smirnov D 0.113148 Pr > D <0.0100
Cramer-von Mises W-Sq 0.461682 Pr > W-Sq <0.0050
Anderson-Darling A-Sq 2.873019 Pr > A-Sq <0.0050
Quantiles (Definition 5)
Level Quantile
100% Max 0.770386
99% 0.768248
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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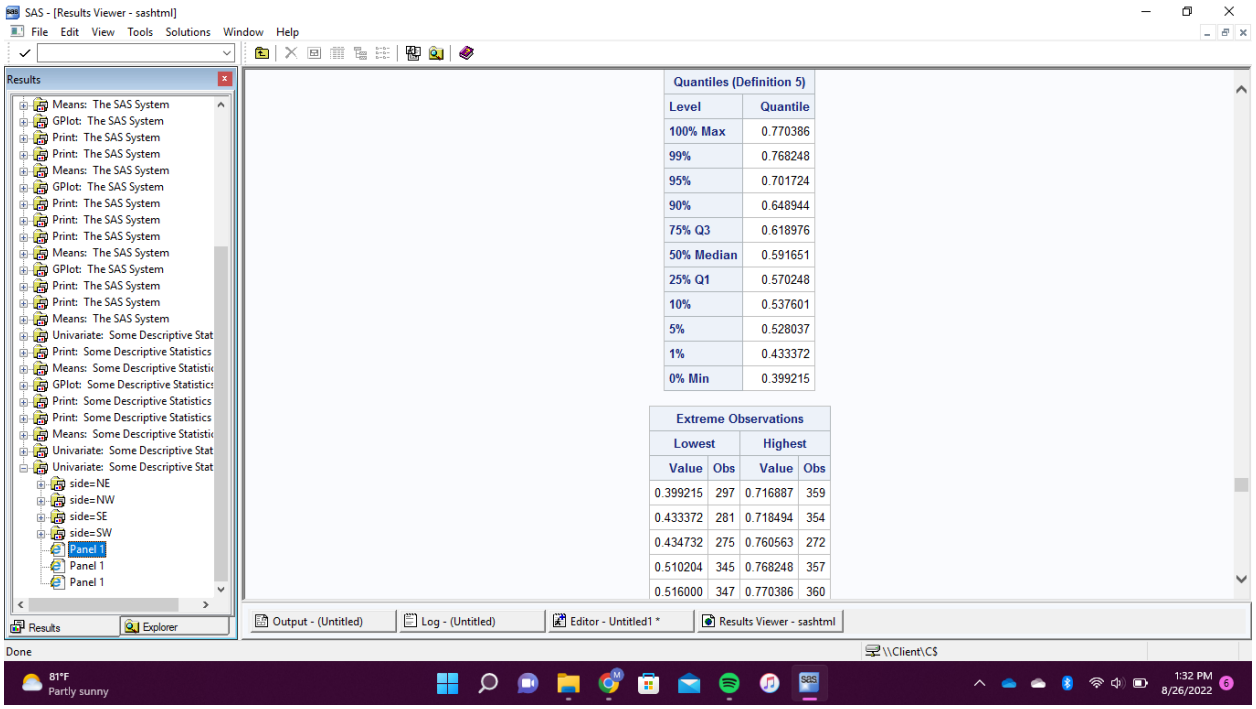
SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Quantiles (Definition 5)
Level Quantile
100% Max 0.770386
99% 0.768248
95% 0.701724
90% 0.648944
75% Q3 0.618976
50% Median 0.591651
25% Q1 0.570248
10% 0.537601
5% 0.528037
1% 0.433372
0% Min 0.399215
Extreme Observations
Lowest Highest
Value Obs Value Obs
0.399215 297 0.716887 359
0.433372 281 0.718494 354
0.434732 275 0.760563 272
0.510204 345 0.768248 357
0.516000 347 0.770386 360
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
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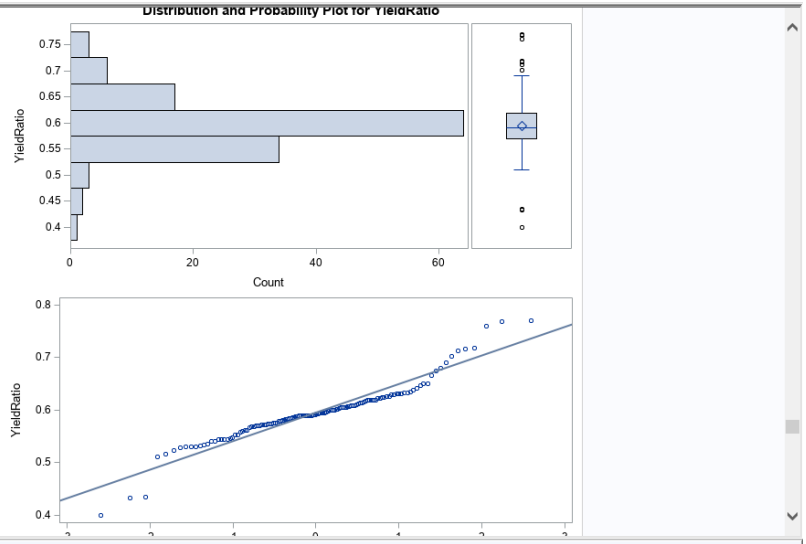
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
    - Panel 1
    - Panel 1
    - Panel 1

Results | Explorer



Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

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SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
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- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
    - Panel 1
    - Panel 1
    - Panel 1

Results | Explorer

The UNIVARIATE Procedure
Variable: grain

side=SW

Moments			
N	120	Sum Weights	120
Mean	4.18183333	Sum Observations	501.82
Std Deviation	0.40483627	Variance	0.16389241
Skewness	-0.0542939	Kurtosis	0.20034069
Uncorrected SS	2118.0308	Corrected SS	19.5031967
Coeff Variation	9.68083235	Std Error Mean	0.03695633

Basic Statistical Measures			
Location		Variability	
Mean	4.181833	Std Deviation	0.40484
Median	4.215000	Variance	0.16389
Mode	3.820000	Range	2.09000
		Interquartile Range	0.52500

Note: The mode displayed is the smallest of 12 modes with a count of 3.

Tests for Location: Mu0=0

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

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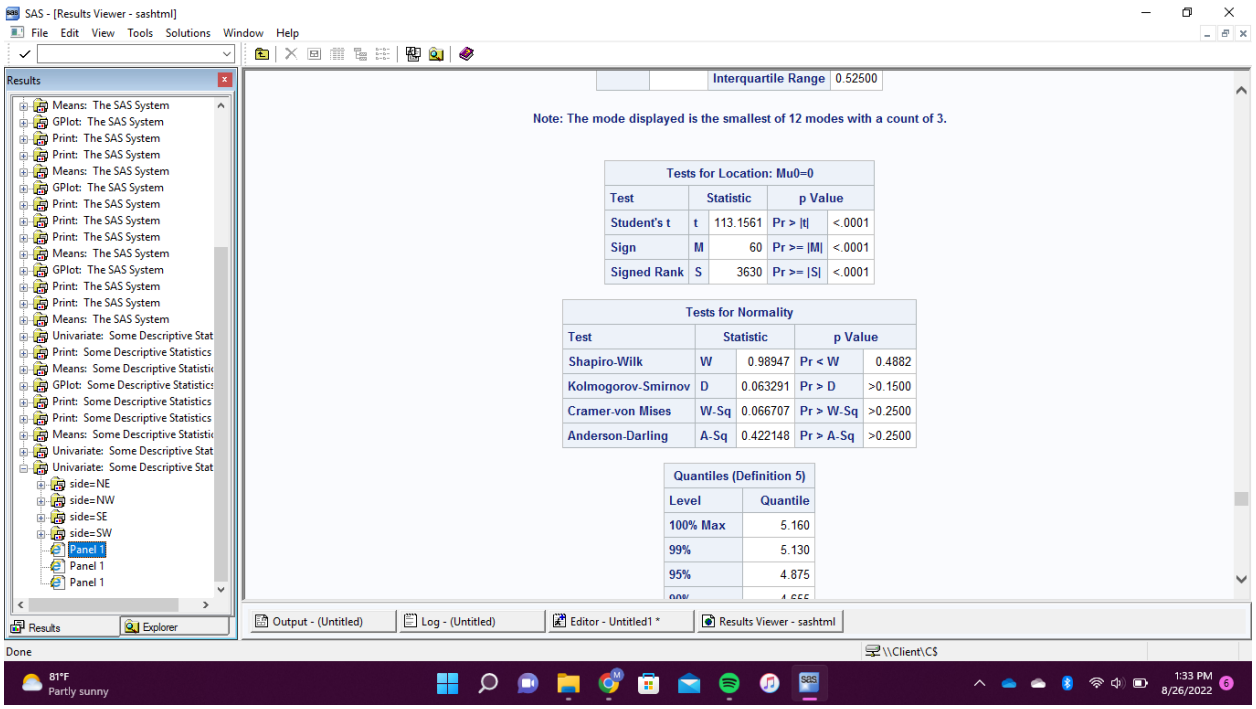
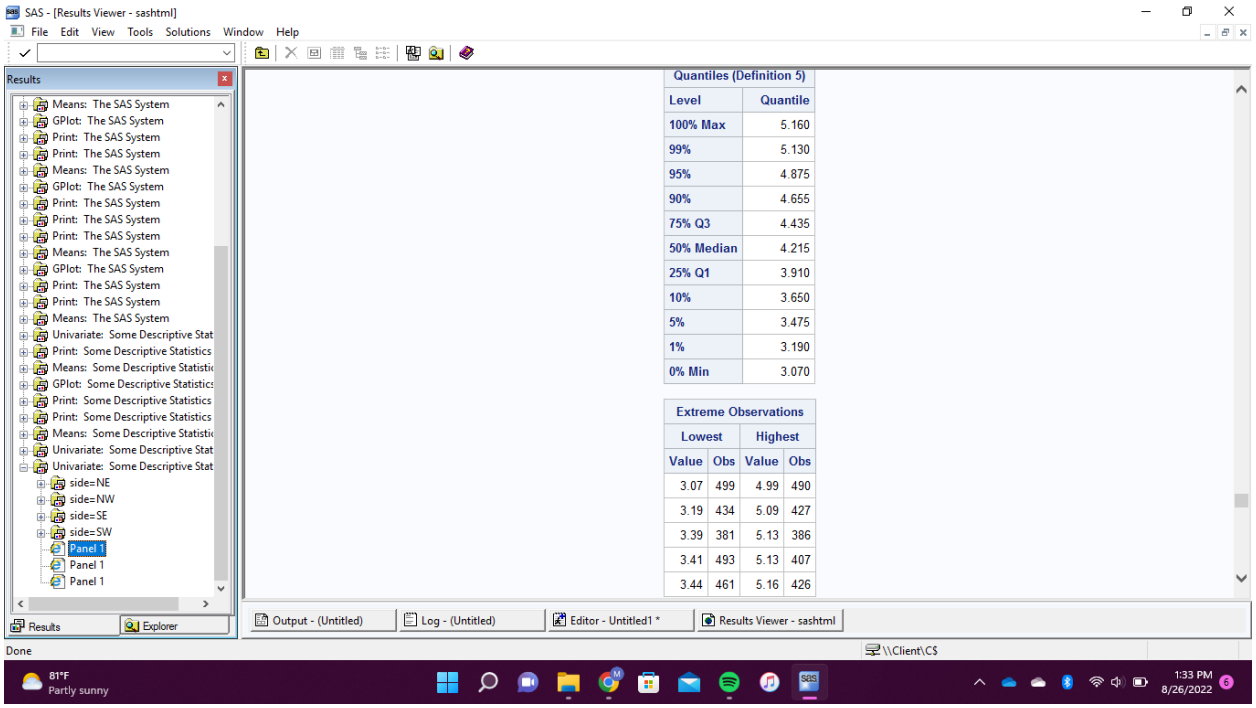
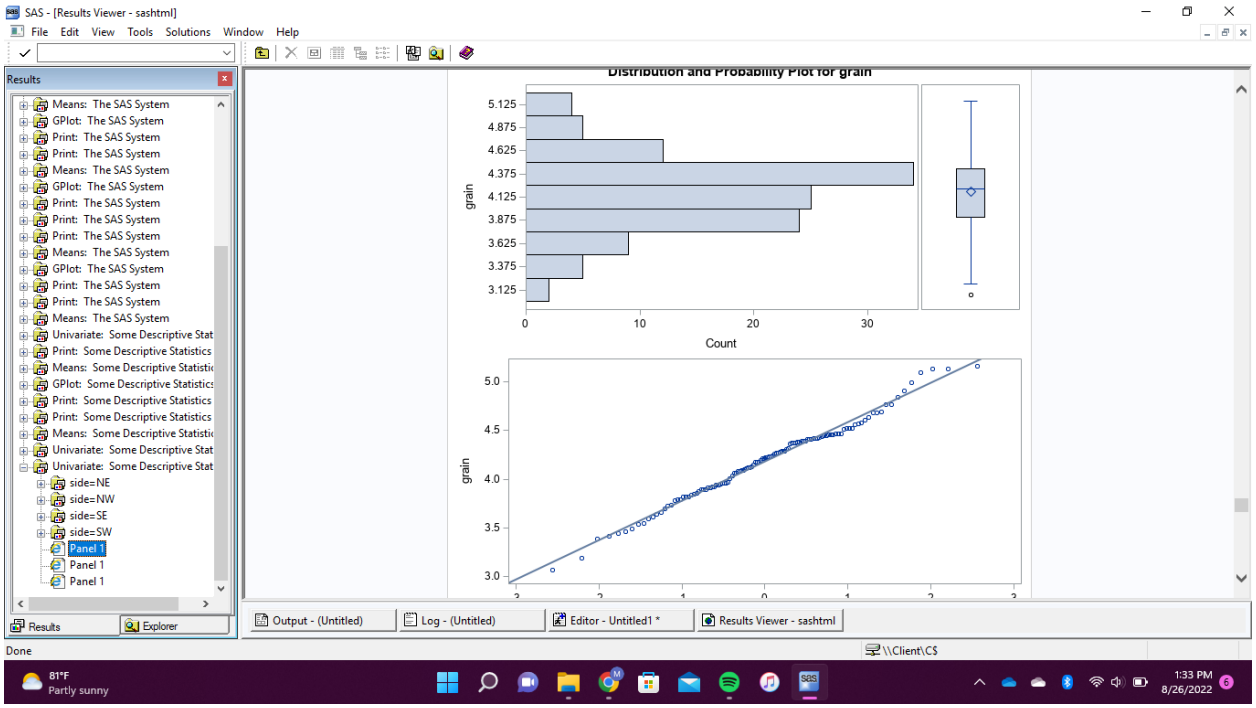
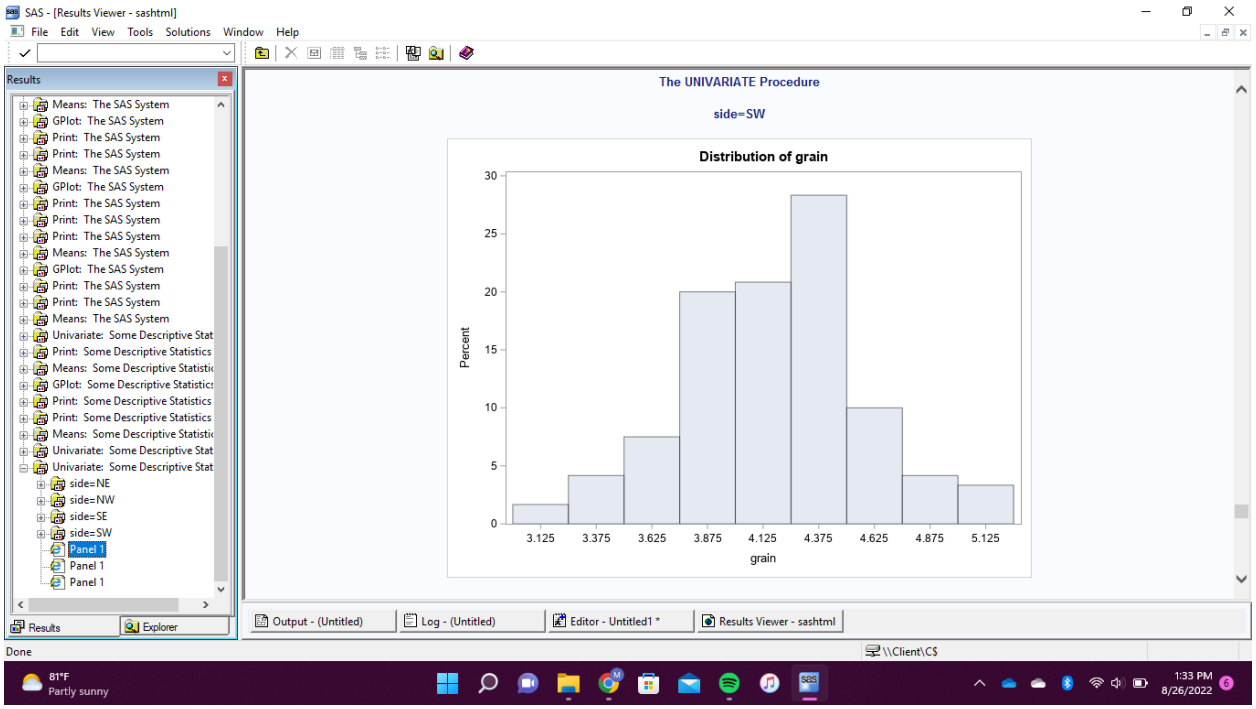
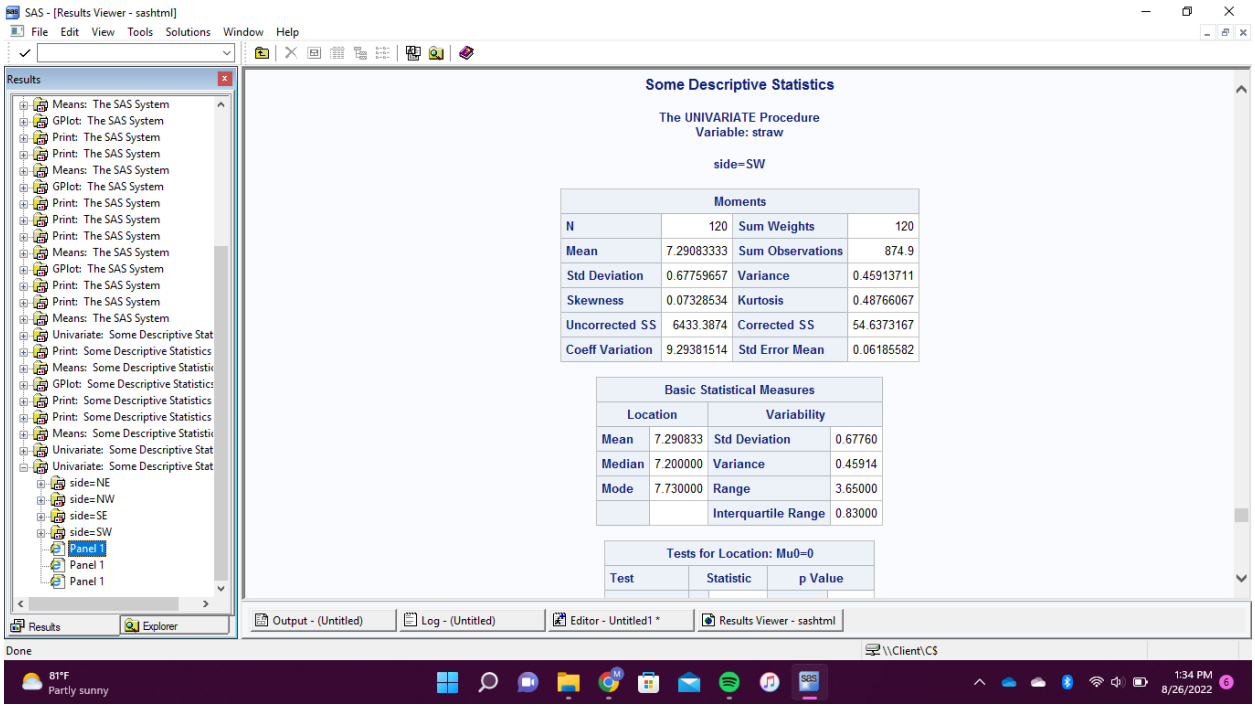
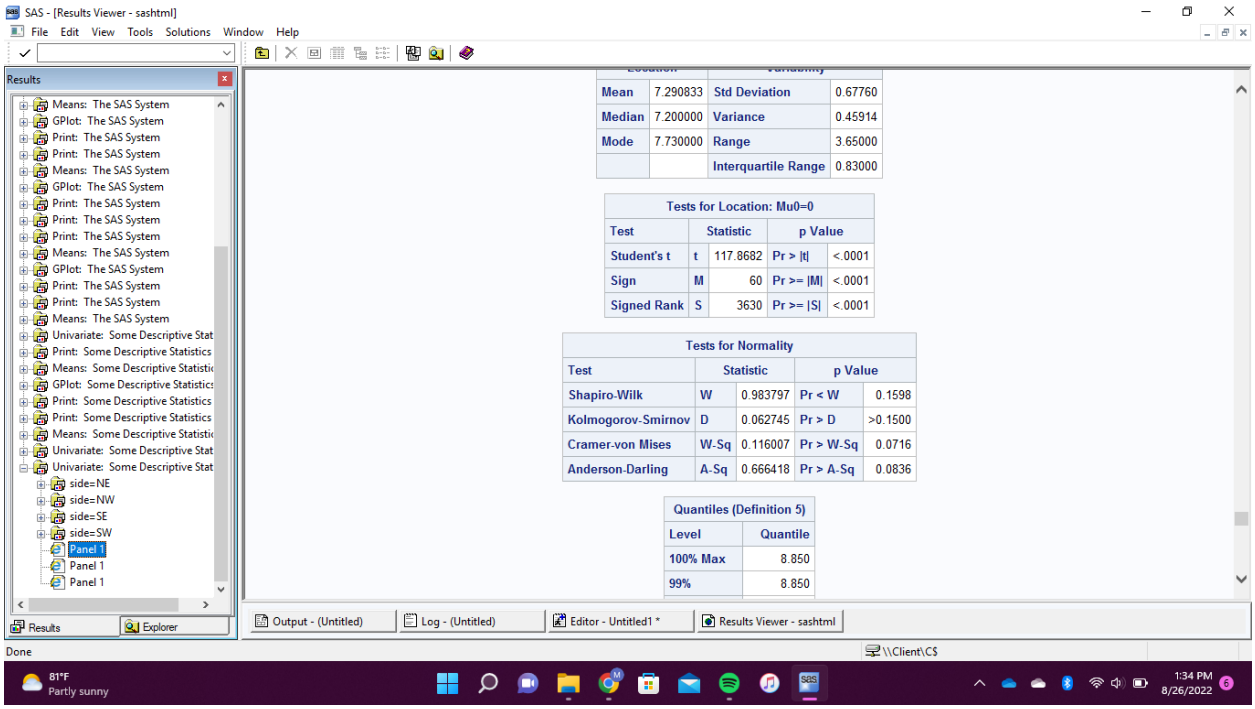

SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Interquartile Range 0.52500
Note: The mode displayed is the smallest of 12 modes with a count of 3.
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 113.1561 Pr > |t| <.0001
Sign M 60 Pr >= |M| <.0001
Signed Rank S 3630 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.98947 Pr < W 0.4882
Kolmogorov-Smirnov D 0.063291 Pr > D >0.1500
Cramer-von Mises W-Sq 0.066707 Pr > W-Sq >0.2500
Anderson-Darling A-Sq 0.422148 Pr > A-Sq >0.2500
Quantiles (Definition 5)
Level Quantile
100% Max 5.160
99% 5.130
95% 4.875
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:33 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Quantiles (Definition 5)
Level Quantile
100% Max 5.160
99% 5.130
95% 4.875
90% 4.655
75% Q3 4.435
50% Median 4.215
25% Q1 3.910
10% 3.650
5% 3.475
1% 3.190
0% Min 3.070
Extreme Observations
Lowest Highest
Value Obs Value Obs
3.07 499 4.99 490
3.19 434 5.09 427
3.39 381 5.13 386
3.41 493 5.13 407
3.44 461 5.16 426
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:33 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Distribution and Probability Plot for grain
grain
Count
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:33 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
The UNIVARIATE Procedure
side=SW
Distribution of grain
Percent
grain
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F
Partly sunny
1:33 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: straw
side=SW
Moments
N 120 Sum Weights 120
Mean 7.29083333 Sum Observations 874.9
Std Deviation 0.67759657 Variance 0.45913711
Skewness 0.07328534 Kurtosis 0.48766067
Uncorrected SS 6433.3874 Corrected SS 54.6373167
Coeff Variation 9.29381514 Std Error Mean 0.06185582
Basic Statistical Measures
Location
Mean 7.290833
Median 7.200000
Mode 7.730000
Variability
Std Deviation 0.67760
Variance 0.45914
Range 3.65000
Interquartile Range 0.83000
Tests for Location: Mu0=0
Test Statistic p Value
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F Partly sunny
1:34 PM 8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Mean 7.290833 Std Deviation 0.67760
Median 7.200000 Variance 0.45914
Mode 7.730000 Range 3.65000
Interquartile Range 0.83000
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 117.8682 Pr > |t| <.0001
Sign M 60 Pr >= |M| <.0001
Signed Rank S 3630 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.983797 Pr < W 0.1598
Kolmogorov-Smirnov D 0.062745 Pr > D >0.1500
Cramer-von Mises W-Sq 0.116007 Pr > W-Sq 0.0716
Anderson-Darling A-Sq 0.666418 Pr > A-Sq 0.0836
Quantiles (Definition 5)
Level Quantile
100% Max 8.850
99% 8.850
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
Done
\\Client\C$
81°F Partly sunny
1:34 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
    - Panel 1
    - Panel 1
    - Panel 1

Results | Explorer

Quantiles (Definition 5)

Level	Quantile
100% Max	8.850
99%	8.850
95%	8.625
90%	8.200
75% Q3	7.725
50% Median	7.200
25% Q1	6.895
10%	6.535
5%	6.185
1%	5.610
0% Min	5.200

Extreme Observations

Lowest		Highest	
Value	Obs	Value	Obs
5.20	395	8.74	449
5.61	381	8.75	439
5.96	493	8.78	426
6.06	434	8.85	385
6.12	499	8.85	435

Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

Done

\\Client\C$

81°F Partly sunny

1:34 PM 8/26/2022

SAS - [Results Viewer - sashtml]

File Edit View Tools Solutions Window Help

Results

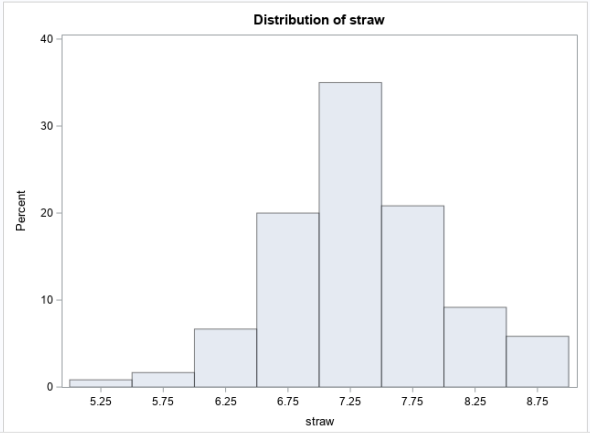
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- GPlot: The SAS System
- Print: The SAS System
- Print: The SAS System
- Means: The SAS System
- Univariate: Some Descriptive Stat
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- GPlot: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Print: Some Descriptive Statistics
- Means: Some Descriptive Statistic
- Univariate: Some Descriptive Stat
- Univariate: Some Descriptive Stat
  - side=NE
  - side=NW
  - side=SE
  - side=SW
    - Panel 1
    - Panel 1
    - Panel 1

Results | Explorer

Some Descriptive Statistics

The UNIVARIATE Procedure

side=SW

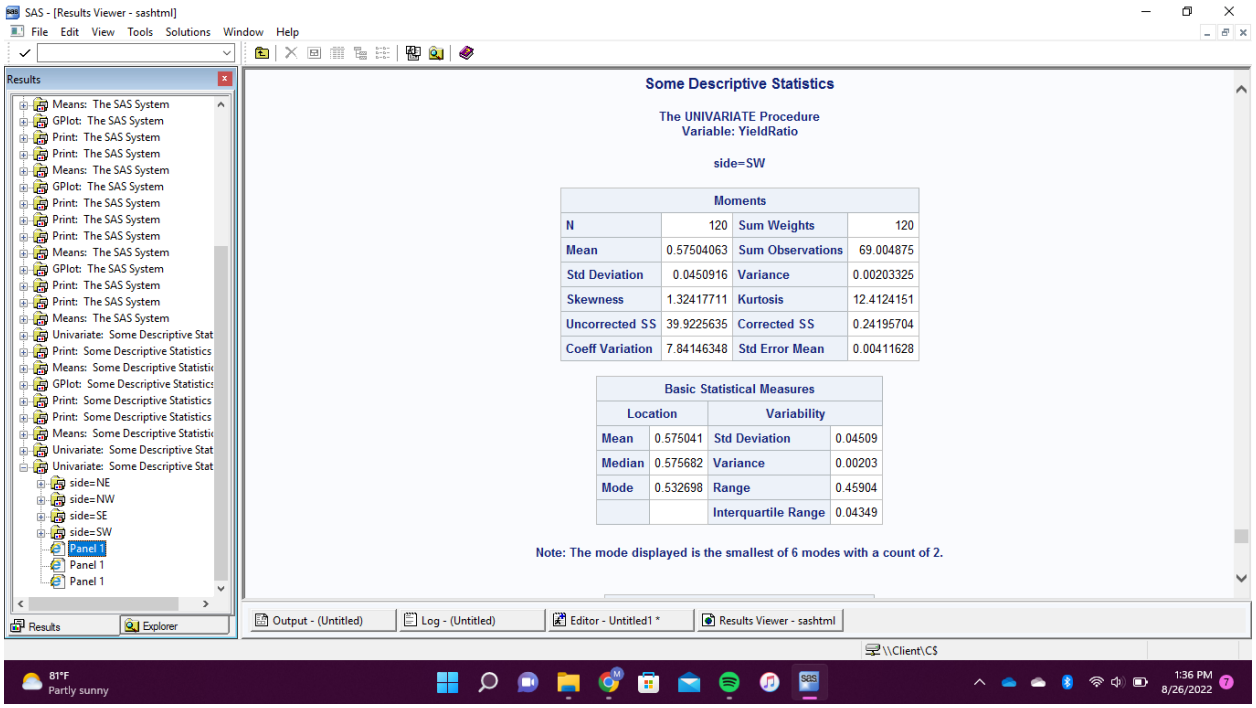


Output - (Untitled) | Log - (Untitled) | Editor - Untitled1 * | Results Viewer - sashtml

\\Client\C$

81°F Partly sunny

1:36 PM 8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Some Descriptive Statistics
The UNIVARIATE Procedure
Variable: YieldRatio
side=SW
Moments
N 120 Sum Weights 120
Mean 0.57504063 Sum Observations 69.004875
Std Deviation 0.0450916 Variance 0.00203325
Skewness 1.32417711 Kurtosis 12.4124151
Uncorrected SS 39.9225635 Corrected SS 0.24195704
Coeff Variation 7.84146348 Std Error Mean 0.00411628
Basic Statistical Measures
Location
Mean 0.575041
Median 0.575682
Mode 0.532698
Variability
Std Deviation 0.04509
Variance 0.00203
Range 0.45904
Interquartile Range 0.04349
Note: The mode displayed is the smallest of 6 modes with a count of 2.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
Partly sunny
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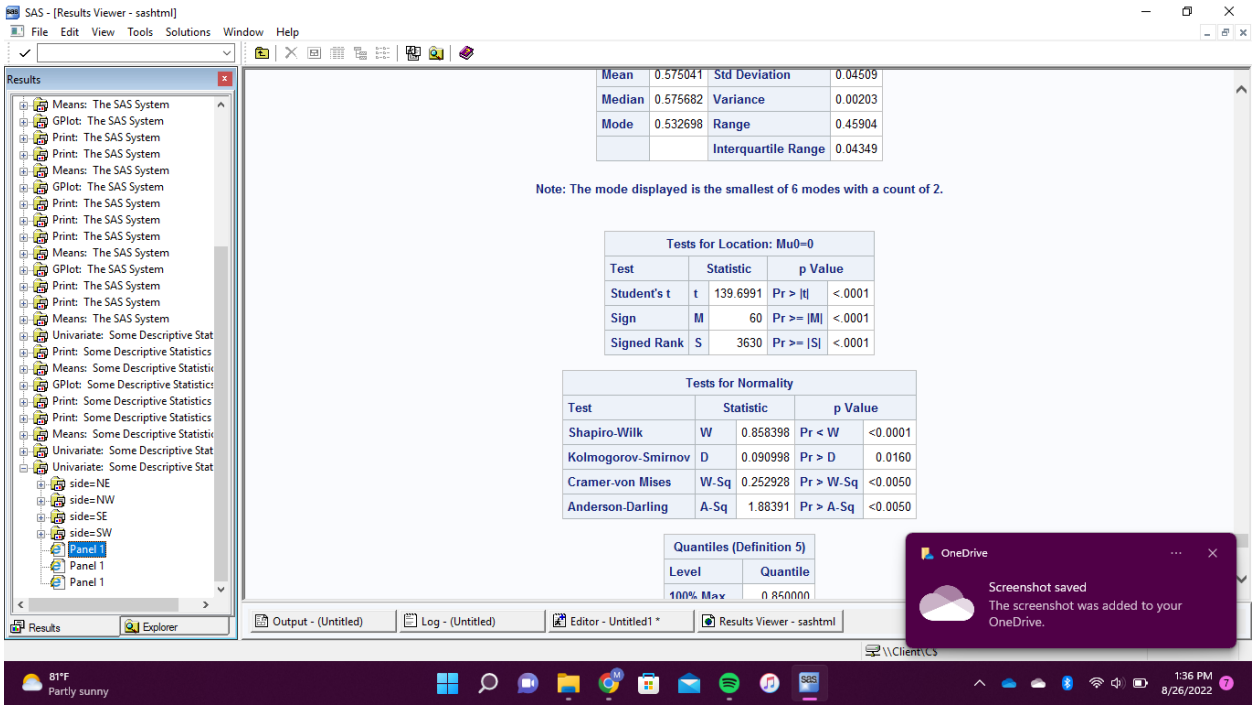
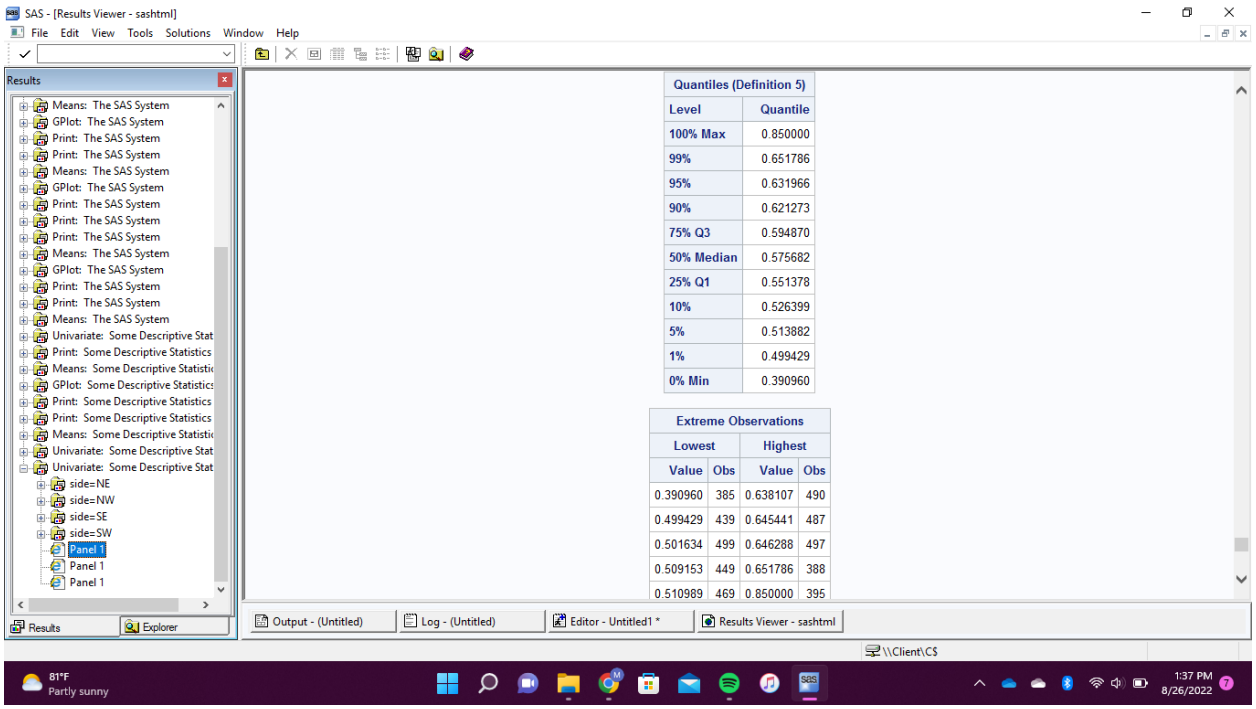
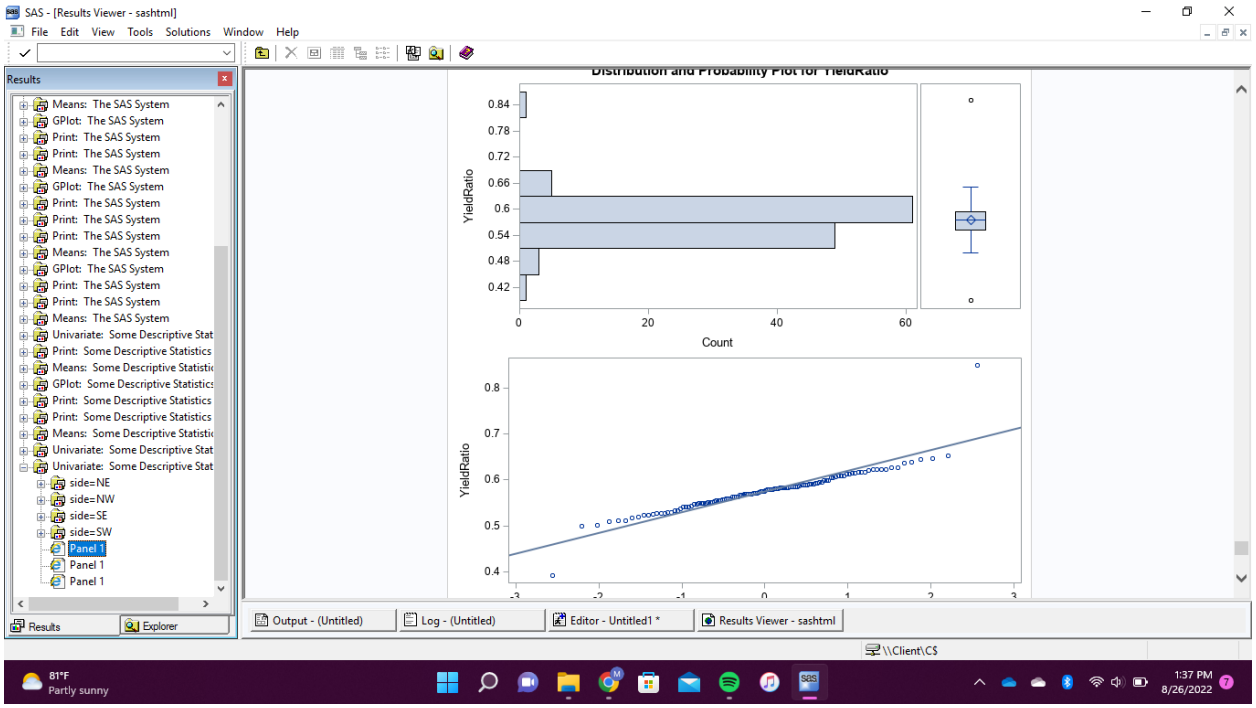
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
Mean 0.575041 Std Deviation 0.04509
Median 0.575682 Variance 0.00203
Mode 0.532698 Range 0.45904
Interquartile Range 0.04349
Note: The mode displayed is the smallest of 6 modes with a count of 2.
Tests for Location: Mu0=0
Test Statistic p Value
Student's t t 139.6991 Pr > |t| <.0001
Sign M 60 Pr >= |M| <.0001
Signed Rank S 3630 Pr >= |S| <.0001
Tests for Normality
Test Statistic p Value
Shapiro-Wilk W 0.858398 Pr < W <0.0001
Kolmogorov-Smirnov D 0.090998 Pr > D 0.0160
Cramer-von Mises W-Sq 0.252928 Pr > W-Sq <0.0050
Anderson-Darling A-Sq 1.88391 Pr > A-Sq <0.0050
Quantiles (Definition 5)
Level Quantile
100% Max 0.850000
OneDrive
Screenshot saved
The screenshot was added to your OneDrive.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
Partly sunny
1:36 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Panel 1
Panel 1
Results
Explorer
Quantiles (Definition 5)
Level
Quantile
100% Max 0.850000
99% 0.651786
95% 0.631966
90% 0.621273
75% Q3 0.594870
50% Median 0.575682
25% Q1 0.551378
10% 0.526399
5% 0.513882
1% 0.499429
0% Min 0.390960
Extreme Observations
Lowest
Highest
Value Obs Value Obs
0.390960 385 0.638107 490
0.499429 439 0.645441 487
0.501634 499 0.646288 497
0.509153 449 0.651786 388
0.510989 469 0.850000 395
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
Partly sunny
1:37 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
GPlot: The SAS System
Print: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Panel 1
Panel 1
Results
Explorer
YieldRatio
0.84
0.78
0.72
0.66
0.6
0.54
0.48
0.42
0
20
40
60
Count
YieldRatio
0.8
0.7
0.6
0.5
0.4
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
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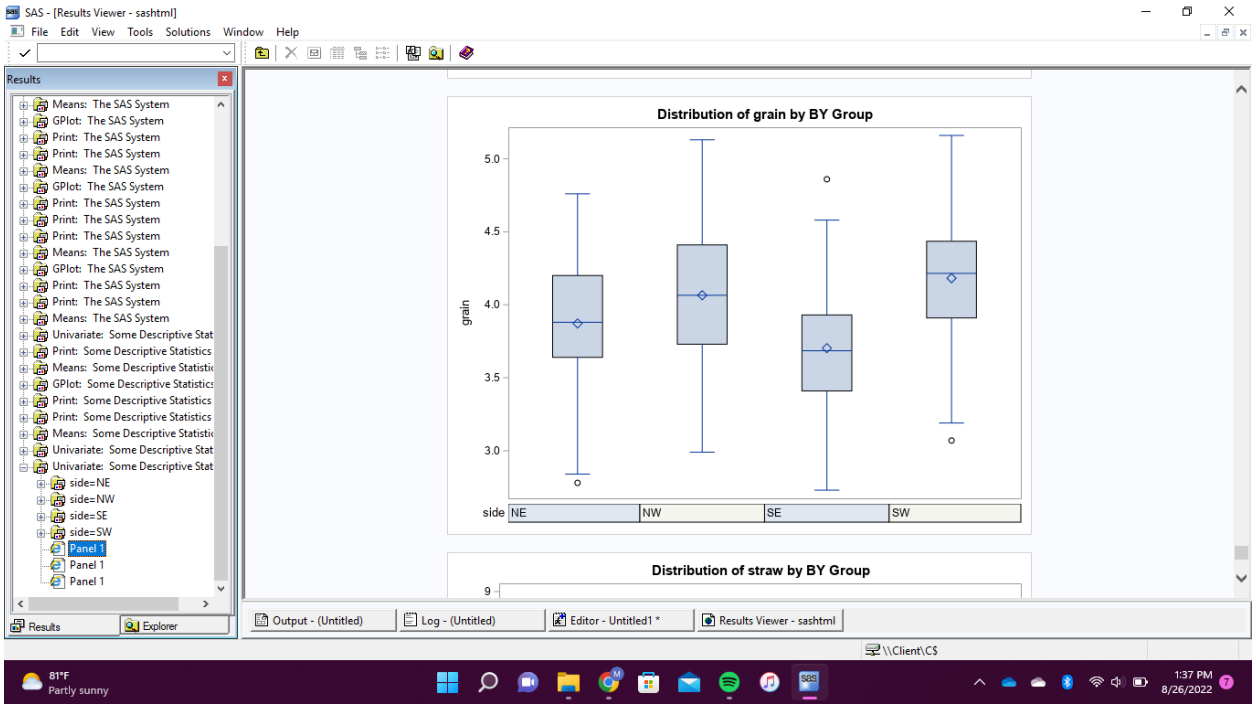
1:37 PM
8/26/2022


SAS - [Results Viewer - sashtml]
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Results
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GPlot: The SAS System
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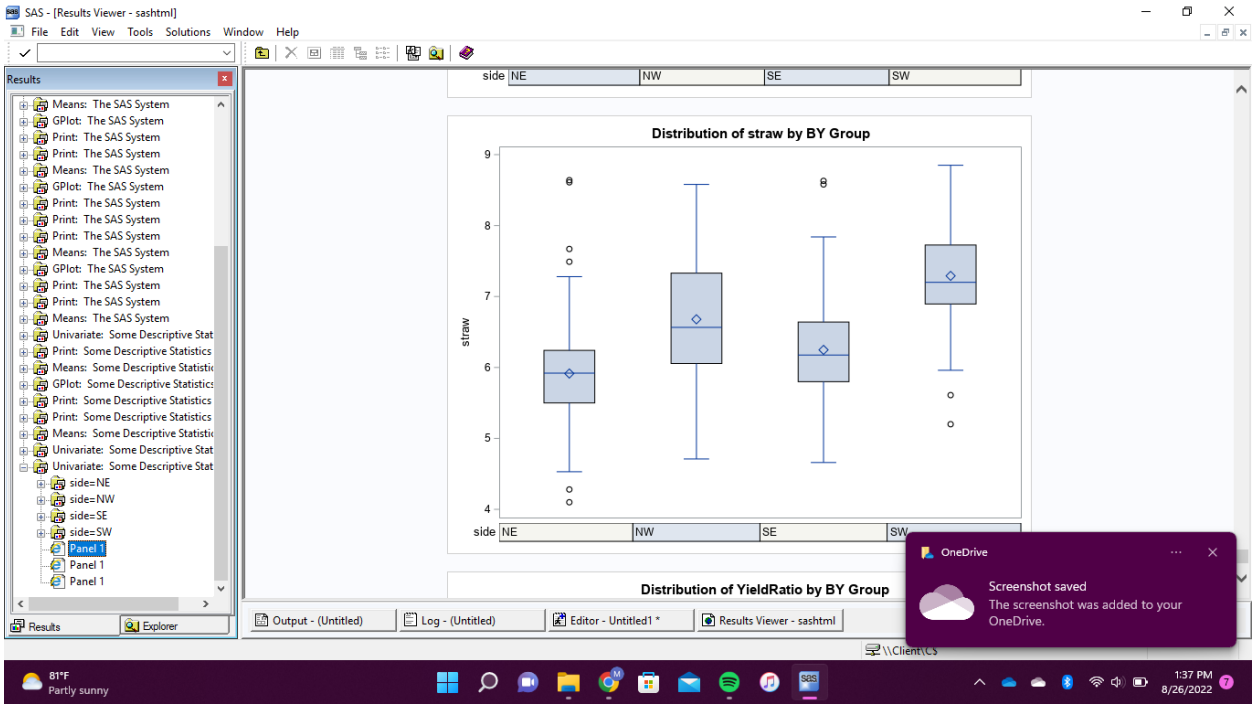
Means: The SAS System
Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
Print: Some Descriptive Statistics
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
Univariate: Some Descriptive Stat
Univariate: Some Descriptive Stat
side=NE
side=NW
side=SE
side=SW
Panel 1
Panel 1
Panel 1
Results
Explorer
Distribution of grain by BY Group
grain
5.0
4.5
4.0
3.5
3.0
side
NE
NW
SE
SW
Distribution of straw by BY Group
9
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
Partly sunny
1:37 PM
8/26/2022


SAS - [Results Viewer - sashtml]
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Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
side NE NW SE SW
Distribution of straw by BY Group
straw
9
8
7
6
5
4
side NE NW SE SW
Distribution of YieldRatio by BY Group
OneDrive
Screenshot saved
The screenshot was added to your OneDrive.
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
Partly sunny
1:37 PM
8/26/2022


SAS - [Results Viewer - sashtml]
File Edit View Tools Solutions Window Help
Results
Means: The SAS System
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Univariate: Some Descriptive Stat
Print: Some Descriptive Statistics
Means: Some Descriptive Statistic
GPlot: Some Descriptive Statistics
side=NE
side=NW
side=SE
side=SW
Panel 1
Results
Explorer
side NE NW SE SW
Distribution of YieldRatio by BY Group
YieldRatio
0.8
0.7
0.6
0.5
0.4
side NE NW SE SW
Output - (Untitled)
Log - (Untitled)
Editor - Untitled1 *
Results Viewer - sashtml
\\Client\C$
81°F
Partly sunny
1:37 PM
8/26/2022