

Yang, Kun 301178299

Assignment 4 Part 1 - Cereal
Cereal Analysis
part of the raw data

Obs	name	manufacturer	type	calories	protein	fat	sodium	fiber	complex_carbs	sugars	shelf
1	100%_Bran	N	C	60	4	1	130	10.0	5.0	6	3
2	100%_Natural_Bran	Q	C	110	3	5	15	2.0	8.0	8	3
3	All-Bran	K	C	80	4	1	260	9.0	7.0	5	3
4	All-Bran_with_Extra_Fiber	K	C	50	4	0	140	14.0	8.0	0	3
5	Almond_Delight	R	C	110	2	2	200	1.0	14.0	8	3
6	Apple_Cinnamon_Cheerios	G	C	110	2	2	180	1.5	10.5	10	1
7	Apple_Jacks	K	C	110	2	0	125	1.0	11.0	14	2
8	Basic_4	G	C	140	3	2	210	2.0	18.0	8	3
9	Bran_Chex	R	C	90	2	1	200	4.0	15.0	6	1
10	Bran_Flakes	P	C	90	3	0	210	5.0	13.0	5	3

Obs	potassium	vit_rda	weight	cups_per_serving
1	280	25	1.00	0.33
2	135	0	1.00	-1.00
3	320	25	1.00	0.33
4	330	25	1.00	0.50
5	-1	25	1.00	0.75
6	70	25	1.00	0.75
7	30	25	1.00	1.00
8	100	25	1.33	0.75
9	125	25	1.00	0.67
10	190	25	1.00	0.67

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Assignment 4 Part 1 - Cereal**Cereal Analysis***part of the raw data after replacing -1 by missing values*

Obs	name	manufacturer	type	calories	protein	fat	sodium	fiber	complex_carbs	sugars	shelf
1	100%_Bran	N	C	60	4	1	130	10.0	5.0	6	3
2	100%_Natural_Bran	Q	C	110	3	5	15	2.0	8.0	8	3
3	All-Bran	K	C	80	4	1	260	9.0	7.0	5	3
4	All-Bran_with_Extra_Fiber	K	C	50	4	0	140	14.0	8.0	0	3
5	Almond_Delight	R	C	110	2	2	200	1.0	14.0	8	3
6	Apple_Cinnamon_Cheerios	G	C	110	2	2	180	1.5	10.5	10	1
7	Apple_Jacks	K	C	110	2	0	125	1.0	11.0	14	2
8	Basic_4	G	C	140	3	2	210	2.0	18.0	8	3
9	Bran_Chex	R	C	90	2	1	200	4.0	15.0	6	1
10	Bran_Flakes	P	C	90	3	0	210	5.0	13.0	5	3

Obs	potassium	vit_rda	weight	cups_per_serving
1	280	25	1.00	0.33
2	135	0	1.00	.
3	320	25	1.00	0.33
4	330	25	1.00	0.50
5	.	25	1.00	0.75
6	70	25	1.00	0.75
7	30	25	1.00	1.00
8	100	25	1.33	0.75
9	125	25	1.00	0.67
10	190	25	1.00	0.67

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Assignment 4 Part 1 - Cereal
Basic statistics

The UNIVARIATE Procedure
Variable: calories (Calories)

Moments			
N	77	Sum Weights	77
Mean	105.064935	Sum Observations	8090
Std Deviation	21.6201281	Variance	467.429938
Skewness	-0.1935512	Kurtosis	1.48174036
Uncorrected SS	885500	Corrected SS	35524.6753
Coeff Variation	20.5778722	Std Error Mean	2.46384226

Basic Statistical Measures			
Location		Variability	
Mean	105.0649	Std Deviation	21.62013
Median	100.0000	Variance	467.42994
Mode	110.0000	Range	120.00000
		Interquartile Range	20.00000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	42.64272	Pr > t	<.0001
Sign	M	38.5	Pr >= M	<.0001
Signed Rank	S	1501.5	Pr >= S	<.0001

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***Assignment 4 Part 1 - Cereal
Basic statistics***

***The UNIVARIATE Procedure
Variable: calories (Calories)***

Robust Measures of Scale		
Measure	Value	Estimate of Sigma
Interquartile Range	20.00000	14.82602
Gini's Mean Difference	22.94600	20.33536
MAD	10.00000	14.82600
Sn	11.92600	12.06704
Qn	22.21900	21.82223

Quantiles (Definition 5)	
Level	Quantile
100% Max	160
99%	160
95%	150
90%	130
75% Q3	110
50% Median	100
25% Q1	90
10%	80
5%	60
1%	40
0% Min	40

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Assignment 4 Part 1 - Cereal
Basic statistics

The UNIVARIATE Procedure
Variable: calories (Calories)

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
40	55	140	50
50	56	150	45
50	4	150	46
60	1	150	71
80	69	160	47

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***Assignment 4 Part 1 - Cereal
Survey Select with 5 replicates***

The SURVEYSELECT Procedure

Selection Method	Unrestricted Random Sampling
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Input Data Set	CEREAL
Random Number Seed	2342332
Sampling Rate	1
Sample Size	77
Expected Number of Hits	1
Sampling Weight	1
Number of Replicates	5
Total Sample Size	385
Output Data Set	BOOTSAMPLE

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Assignment 4 Part 1 - Cereal
Survey Select with 5 replicates

Obs	Replicate	name	manufacturer	type	calories	protein	fat	sodium	fiber	complex_carbs	sugars
1	1	100%_Bran	N	C	60	4	1	130	10.0	5.0	6
2	1	100%_Bran	N	C	60	4	1	130	10.0	5.0	6
3	1	100%_Natural_Bran	Q	C	110	3	5	15	2.0	8.0	8
4	1	100%_Natural_Bran	Q	C	110	3	5	15	2.0	8.0	8
5	1	Apple_Cinnamon_Cheerios	G	C	110	2	2	180	1.5	10.5	10
6	1	Apple_Jacks	K	C	110	2	0	125	1.0	11.0	14
7	1	Apple_Jacks	K	C	110	2	0	125	1.0	11.0	14
8	1	Basic_4	G	C	140	3	2	210	2.0	18.0	8
9	1	Bran_Chex	R	C	90	2	1	200	4.0	15.0	6
10	1	Cap'n'Crunch	Q	C	120	1	2	220	0.0	12.0	12
11	1	Cheerios	G	C	110	6	2	290	2.0	17.0	1

Obs	shelf	potassium	vit_rda	weight	cups_per_serving	NumberHits
1	3	280	25	1.00	0.33	2
2	3	280	25	1.00	0.33	2
3	3	135	0	1.00	.	2
4	3	135	0	1.00	.	2
5	1	70	25	1.00	0.75	1
6	2	30	25	1.00	1.00	2
7	2	30	25	1.00	1.00	2
8	3	100	25	1.33	0.75	1
9	1	125	25	1.00	0.67	1
10	2	35	25	1.00	0.75	1
11	1	105	25	1.00	1.25	2

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Assignment 4 Part 1 - Cereal
Survey Select with 5 replicates

Obs	Replicate	name	manufacturer	type	calories	protein	fat	sodium	fiber	complex_carbs	sugars
12	1	Cheerios	G	C	110	6	2	290	2.0	17.0	1
13	1	Cinnamon_Toast_Crunch	G	C	130	1	3	210	0.0	13.0	9
14	1	Cocoa_Puffs	G	C	110	1	1	180	0.0	12.0	13
15	1	Cocoa_Puffs	G	C	110	1	1	180	0.0	12.0	13
16	1	Corn_Chex	R	C	110	2	0	280	0.0	22.0	3
17	1	Corn_Chex	R	C	110	2	0	280	0.0	22.0	3
18	1	Corn_Pops	K	C	100	1	0	90	1.0	13.0	12
19	1	Corn_Pops	K	C	100	1	0	90	1.0	13.0	12
20	1	Corn_Pops	K	C	100	1	0	90	1.0	13.0	12

Obs	shelf	potassium	vit_rda	weight	cups_per_serving	NumberHits
12	1	105	25	1.00	1.25	2
13	2	45	25	1.00	0.75	1
14	2	55	25	1.00	1.00	2
15	2	55	25	1.00	1.00	2
16	1	25	25	1.00	1.00	2
17	1	25	25	1.00	1.00	2
18	2	20	25	1.00	1.00	3
19	2	20	25	1.00	1.00	3
20	2	20	25	1.00	1.00	3

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***Assignment 4 Part 1 - Cereal
Survey Select with 5 replicates***

	N
Sample Replicate Number	
1	77
2	77
3	77
4	77
5	77

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Assignment 4 Part 1 - Cereal
Survey Select with 5 replicates

Obs	Replicate	mean_calories	std_calories	gini_std_calories
1	1	109.610	19.7645	18.2394
2	2	102.597	20.3523	18.5484
3	3	104.545	21.4933	19.5842
4	4	108.312	21.3617	19.5115
5	5	106.234	20.0682	18.8634

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Assignment 4 Part 1 - Cereal
Survey Select with 5 replicates

Obs	SE_boot_mean	cl_mean2_5	cl_mean97_5
1	2.81911	102.597	109.610

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***Assignment 4 Part 1 - Cereal
Survey Select with 1000 replicates***

The SURVEYSELECT Procedure

Selection Method	Unrestricted Random Sampling
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Input Data Set	CEREAL
Random Number Seed	2342332
Sampling Rate	1
Sample Size	77
Expected Number of Hits	1
Sampling Weight	1
Number of Replicates	1000
Total Sample Size	77000
Output Data Set	BOOTSAMPLE

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Assignment 4 Part 1 - Cereal
Survey Select with 1000 replicates

Obs	Replicate	mean_calories	std_calories	gini_std_calories
1	1	109.610	19.7645	18.2394
2	2	102.597	20.3523	18.5484
3	3	104.545	21.4933	19.5842
4	4	108.312	21.3617	19.5115
5	5	106.234	20.0682	18.8634
6	6	106.494	24.8027	24.1092
7	7	100.130	23.0271	21.7104
8	8	107.922	18.7320	17.8033
9	9	103.117	23.9660	22.3889
10	10	105.974	25.3533	24.5696

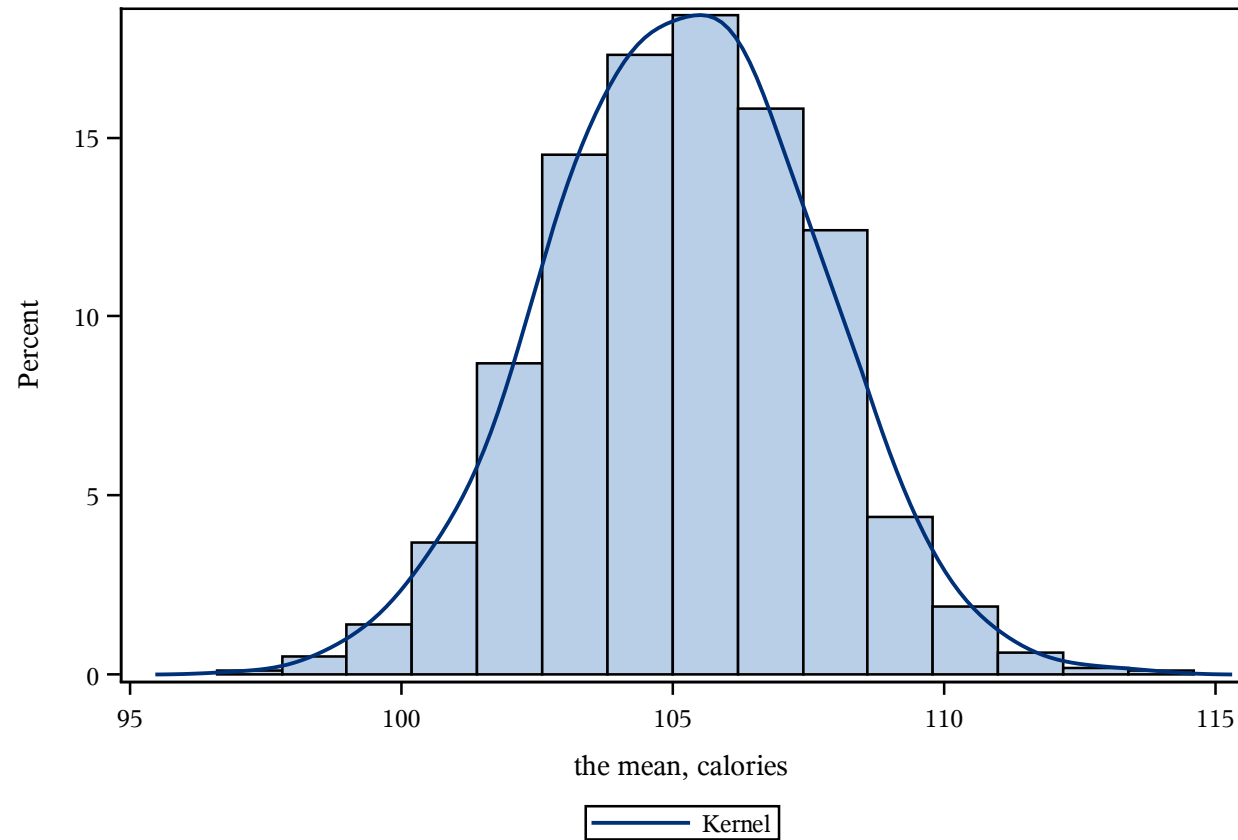
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Assignment 4 Part 1 - Cereal
Survey Select with 1000 replicates

Obs	SE_boot_mean	cl_mean2_5	cl_mean97_5
1	2.44108	100.390	109.870

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Assignment 4 Part 1 - Cereal
The value of the sample mean of calories

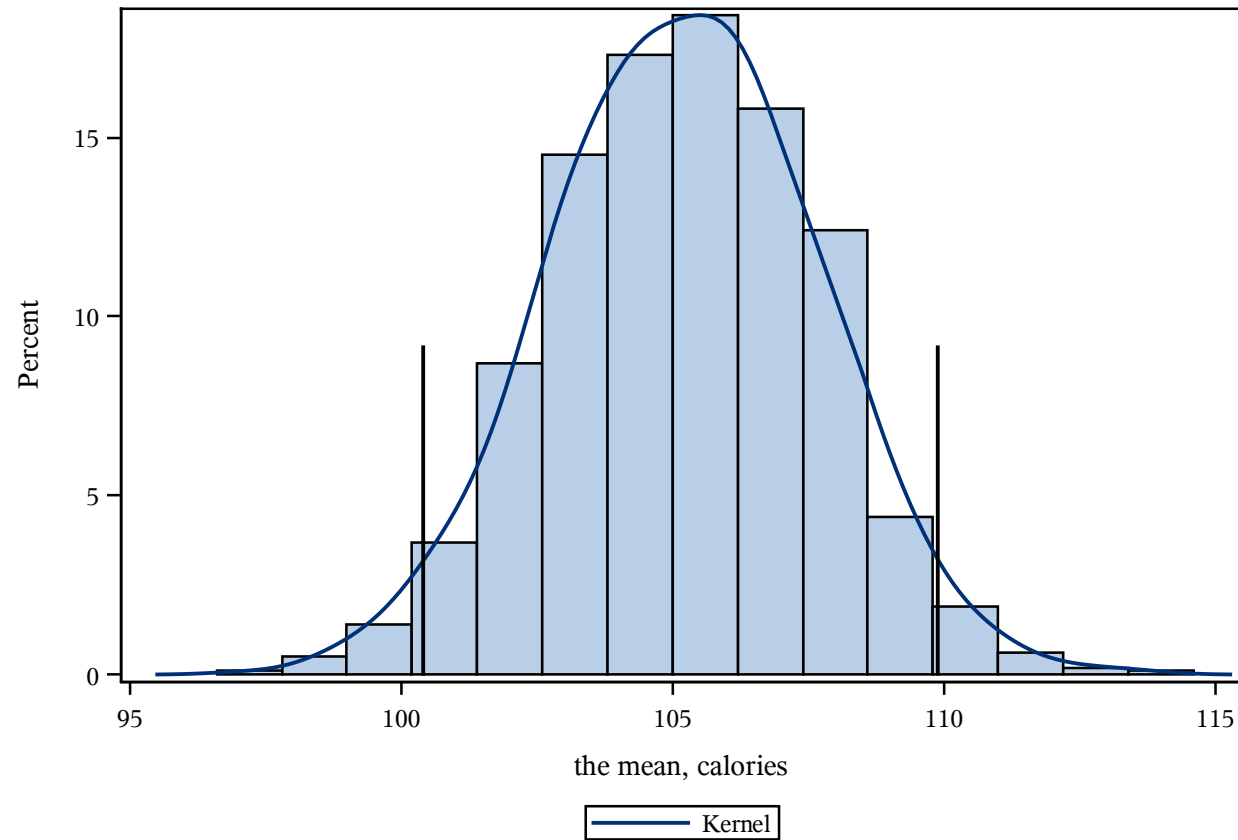


*Yang, Kun 301178299**Assignment 4 Part 1 - Cereal
annotation instructions*

Obs	SE_boot_mean	cl_mean2_5	cl_mean97_5	function	y1space	x1space	y2space	x2space	x1	y1	x2	y2
1	2.44108	100.390	109.870	line	datapercen	datavalue	datapercen	datavalue	100.390	0	100.390	50
2	2.44108	100.390	109.870	line	datapercen	datavalue	datapercen	datavalue	109.870	0	109.870	50

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Assignment 4 Part 1 - Cereal
The value of the sample mean of calories



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Assignment 4 Part 1 - Cereal
The value of the sample mean of calories

Obs	SE_boot_std	cl_std2_5	cl_std97_5
1	2.23120	17.0721	25.4646

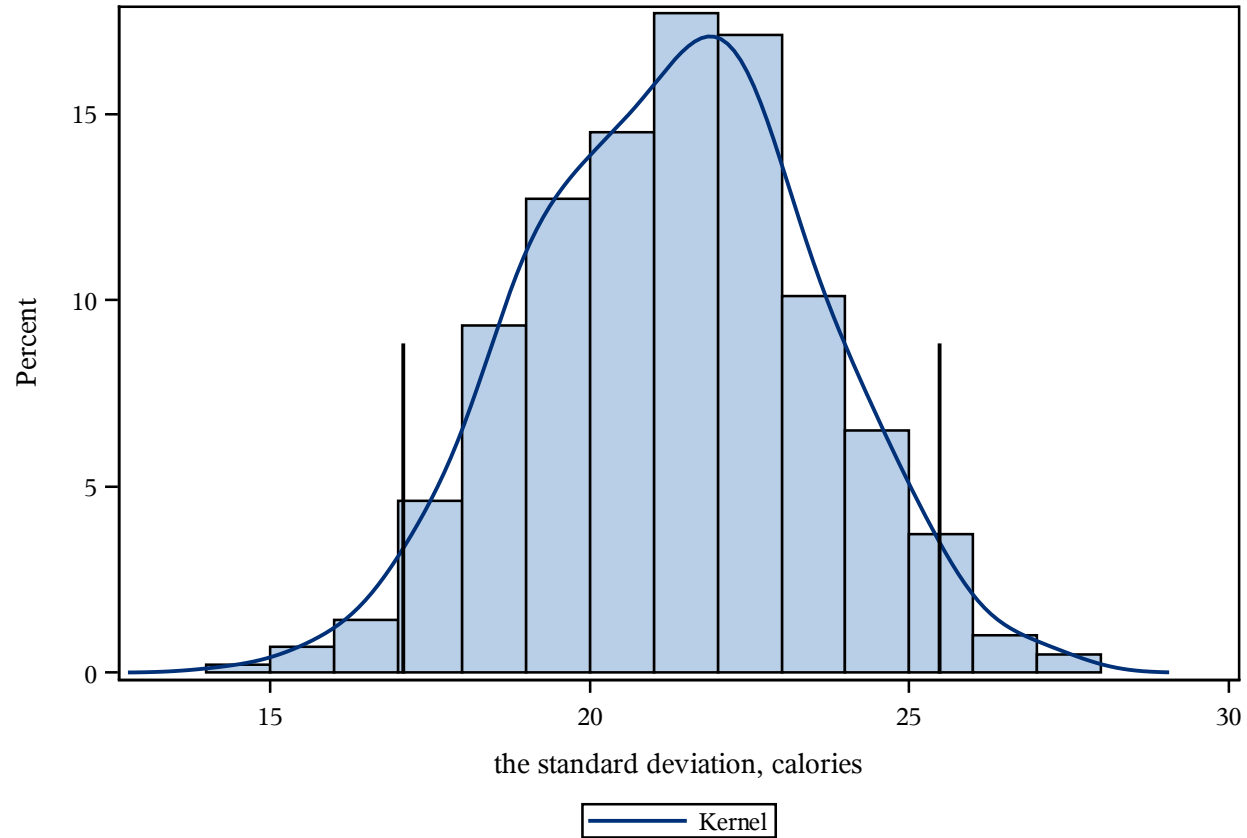
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Assignment 4 Part 1 - Cereal
annotation instructions of sample standard deviation

Obs	SE_boot_std	cl_std2_5	cl_std97_5	function	y1space	x1space	y2space	x2space	x1	y1	x2	y2
1	2.23120	17.0721	25.4646	line	datapercent	datavalue	datapercent	datavalue	17.0721	0	17.0721	50
2	2.23120	17.0721	25.4646	line	datapercent	datavalue	datapercent	datavalue	25.4646	0	25.4646	50

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Assignment 4 Part 1 - Cereal
The value of the sample standard deviation of calories



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Assignment 4 Part 1 - Cereal
The value of the sample standard deviation of calories

Obs	SE_boot_std	cl_gini_std2_5	cl_gini_std97_5
1	2.31670	15.6650	24.5908

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Assignment 4 Part 1 - Cereal
annotation instructions of Gini standard deviation

Obs	SE_boot_std	cl_gini_std2_5	cl_gini_std97_5	function	y1space	x1space	y2space	x2space	x1	y1	x2	y2
1	2.31670	15.6650	24.5908	line	datapercnt	datavalue	datapercnt	datavalue	15.6650	0	15.6650	50
2	2.31670	15.6650	24.5908	line	datapercnt	datavalue	datapercnt	datavalue	24.5908	0	24.5908	50

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Assignment 4 Part 1 - Cereal
The value of the Gini standard deviation of calories

