```
CORRELATIONS
  /VARIABLES=Accuracy Step Batch Epoch
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		23-DEC-2019 21:38:12
Comments		
Input	Data	/home/shaun/dataset2.csv
	Active Dataset	DataSet4
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	240
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Accuracy Step Batch Epoch /PRINT=TWOTAIL NOSIG...
Resources	Processor Time	00:00:00.01
	Elapsed Time	00:00:00.00

Correlations

		Accuracy	Step	Batch	Epoch
Accuracy	Pearson Correlation	1	.468**	-.343**	.216**
	Sig. (2-tailed)		.000	.000	.001
	N	240	240	240	240
Step	Pearson Correlation	.468**	1	.000	.000
	Sig. (2-tailed)	.000		1.000	1.000
	N	240	240	240	240
Batch	Pearson Correlation	-.343**	.000	1	.000
	Sig. (2-tailed)	.000	1.000		1.000
	N	240	240	240	240
Epoch	Pearson Correlation	.216**	.000	.000	1
	Sig. (2-tailed)	.001	1.000	1.000	
	N	240	240	240	240

**. Correlation is significant at the 0.01 level (2-tailed).

```
 * Visual Binning.
*Accuracy.
RECODE  Accuracy (MISSING=COPY) (LO THRU 0.91345=1) (LO THRU 0.97295=2) (LO TH
RU 0.9841=3) (LO THRU
    HI=4) (ELSE=SYSMIS) INTO Accuracy.quarter.
VARIABLE LABELS  Accuracy.quarter'Accuracy (Binned)'.
FORMATS  Accuracy.quarter(F5.0).
VALUE LABELS  Accuracy.quarter1 '' 2 '' 3 '' 4 ''.
VARIABLE LEVEL  Accuracy.quarter(ORDINAL).
EXECUTE.
CROSSTABS
  /TABLES=Step Batch Epoch BY Accuracy.quarter
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW COLUMN ASRESID
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		23-DEC-2019 21:41:31
Comments		
Input	Data	/home/shaun/dataset2.csv
	Active Dataset	DataSet4
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	240
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=Step Batch Epoch BY Accuracy. quarter /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW COLUMN ASRESID /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.00
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Step * Accuracy (Binned)	240	100.0%	0	0.0%	240	100.0%
Batch * Accuracy (Binned)	240	100.0%	0	0.0%	240	100.0%
Epoch * Accuracy (Binned)	240	100.0%	0	0.0%	240	100.0%

Step * Accuracy (Binned)

Crosstab

			Accuracy (Binned)				
			1	2	3	4	Total
Step	.01	Count	47	13	0	0	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Step	78.3%	21.7%	0.0%	0.0%	100.0%
		% within Accuracy (Binned)	78.3%	21.7%	0.0%	0.0%	25.0%
		Adjusted Residual	11.0	-.7	-5.2	-5.1	
	.10	Count	11	28	12	9	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Step	18.3%	46.7%	20.0%	15.0%	100.0%
		% within Accuracy (Binned)	18.3%	46.7%	19.7%	15.3%	25.0%
		Adjusted Residual	-1.4	4.5	-1.1	-2.0	
	.50	Count	1	10	24	25	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Step	1.7%	16.7%	40.0%	41.7%	100.0%
		% within Accuracy (Binned)	1.7%	16.7%	39.3%	42.4%	25.0%
		Adjusted Residual	-4.8	-1.7	3.0	3.5	
	.70	Count	1	9	25	25	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Step	1.7%	15.0%	41.7%	41.7%	100.0%
		% within Accuracy (Binned)	1.7%	15.0%	41.0%	42.4%	25.0%
		Adjusted Residual	-4.8	-2.1	3.3	3.5	
Total		Count	60	60	61	59	240
		Expected Count	60.0	60.0	61.0	59.0	240.0
		% within Step	25.0%	25.0%	25.4%	24.6%	100.0%
		% within Accuracy (Binned)	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	169.501[a]	9	.000
Likelihood Ratio	188.230	9	.000
Linear-by-Linear Association	107.258	1	.000
N of Valid Cases	240		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.75.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.840	.000
	Cramer's V	.485	.000
N of Valid Cases		240	

Batch * Accuracy (Binned)

Crosstab

			Accuracy (Binned)				
			1	2	3	4	Total
Batch	5	Count	3	16	12	29	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Batch	5.0%	26.7%	20.0%	48.3%	100.0%
		% within Accuracy (Binned)	5.0%	26.7%	19.7%	49.2%	25.0%
		Adjusted Residual	-4.1	.3	-1.1	4.9	
	20	Count	15	9	16	20	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Batch	25.0%	15.0%	26.7%	33.3%	100.0%
		% within Accuracy (Binned)	25.0%	15.0%	26.2%	33.9%	25.0%
		Adjusted Residual	.0	-2.1	.3	1.8	
	50	Count	18	18	14	10	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Batch	30.0%	30.0%	23.3%	16.7%	100.0%
		% within Accuracy (Binned)	30.0%	30.0%	23.0%	16.9%	25.0%
		Adjusted Residual	1.0	1.0	-.4	-1.6	
	100	Count	24	17	19	0	60
		Expected Count	15.0	15.0	15.3	14.8	60.0
		% within Batch	40.0%	28.3%	31.7%	0.0%	100.0%
		% within Accuracy (Binned)	40.0%	28.3%	31.1%	0.0%	25.0%
		Adjusted Residual	3.1	.7	1.3	-5.1	
Total		Count	60	60	61	59	240
		Expected Count	60.0	60.0	61.0	59.0	240.0
		% within Batch	25.0%	25.0%	25.4%	24.6%	100.0%
		% within Accuracy (Binned)	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	52.603[a]	9	.000
Likelihood Ratio	68.518	9	.000
Linear-by-Linear Association	35.701	1	.000
N of Valid Cases	240		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.75.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.468	.000
	Cramer's V	.270	.000
N of Valid Cases		240	

Epoch * Accuracy (Binned)

Crosstab

			Accuracy (Binned)				
			1	2	3	4	Total
Epoch	1	Count	9	6	1	0	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	56.3%	37.5%	6.3%	0.0%	100.0%
		% within Accuracy (Binned)	15.0%	10.0%	1.6%	0.0%	6.7%
		Adjusted Residual	3.0	1.2	-1.8	-2.4	
	2	Count	6	6	4	0	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	37.5%	37.5%	25.0%	0.0%	100.0%
		% within Accuracy (Binned)	10.0%	10.0%	6.6%	0.0%	6.7%
		Adjusted Residual	1.2	1.2	.0	-2.4	
	3	Count	6	6	3	1	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	37.5%	37.5%	18.8%	6.3%	100.0%
		% within Accuracy (Binned)	10.0%	10.0%	4.9%	1.7%	6.7%
		Adjusted Residual	1.2	1.2	-.6	-1.8	
	4	Count	4	5	4	3	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	25.0%	31.3%	25.0%	18.8%	100.0%
		% within Accuracy (Binned)	6.7%	8.3%	6.6%	5.1%	6.7%
		Adjusted Residual	.0	.6	.0	-.6	
	5	Count	4	5	4	3	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	25.0%	31.3%	25.0%	18.8%	100.0%
		% within Accuracy (Binned)	6.7%	8.3%	6.6%	5.1%	6.7%
		Adjusted Residual	.0	.6	.0	-.6	
	6	Count	4	4	6	2	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	25.0%	25.0%	37.5%	12.5%	100.0%
		% within Accuracy (Binned)	6.7%	6.7%	9.8%	3.4%	6.7%
		Adjusted Residual	.0	.0	1.1	-1.2	
	7	Count	4	3	4	5	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	25.0%	18.8%	25.0%	31.3%	100.0%

Crosstab

		Accuracy (Binned)				
		1	2	3	4	Total
	% within Accuracy (Binned)	6.7%	5.0%	6.6%	8.5%	6.7%
	Adjusted Residual	.0	-.6	.0	.6	
8	Count	3	3	5	5	16
	Expected Count	4.0	4.0	4.1	3.9	16.0
	% within Epoch	18.8%	18.8%	31.3%	31.3%	100.0%
	% within Accuracy (Binned)	5.0%	5.0%	8.2%	8.5%	6.7%
	Adjusted Residual	-.6	-.6	.6	.6	
9	Count	3	3	6	4	16
	Expected Count	4.0	4.0	4.1	3.9	16.0
	% within Epoch	18.8%	18.8%	37.5%	25.0%	100.0%
	% within Accuracy (Binned)	5.0%	5.0%	9.8%	6.8%	6.7%
	Adjusted Residual	-.6	-.6	1.1	.0	
10	Count	3	3	5	5	16
	Expected Count	4.0	4.0	4.1	3.9	16.0
	% within Epoch	18.8%	18.8%	31.3%	31.3%	100.0%
	% within Accuracy (Binned)	5.0%	5.0%	8.2%	8.5%	6.7%
	Adjusted Residual	-.6	-.6	.6	.6	
11	Count	3	3	4	6	16
	Expected Count	4.0	4.0	4.1	3.9	16.0
	% within Epoch	18.8%	18.8%	25.0%	37.5%	100.0%
	% within Accuracy (Binned)	5.0%	5.0%	6.6%	10.2%	6.7%
	Adjusted Residual	-.6	-.6	.0	1.2	
12	Count	3	3	3	7	16
	Expected Count	4.0	4.0	4.1	3.9	16.0
	% within Epoch	18.8%	18.8%	18.8%	43.8%	100.0%
	% within Accuracy (Binned)	5.0%	5.0%	4.9%	11.9%	6.7%
	Adjusted Residual	-.6	-.6	-.6	1.8	
13	Count	3	3	4	6	16
	Expected Count	4.0	4.0	4.1	3.9	16.0
	% within Epoch	18.8%	18.8%	25.0%	37.5%	100.0%
	% within Accuracy (Binned)	5.0%	5.0%	6.6%	10.2%	6.7%
	Adjusted Residual	-.6	-.6	.0	1.2	

Crosstab

			Accuracy (Binned)				
			1	2	3	4	Total
	14	Count	3	3	4	6	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	18.8%	18.8%	25.0%	37.5%	100.0%
		% within Accuracy (Binned)	5.0%	5.0%	6.6%	10.2%	6.7%
		Adjusted Residual	-.6	-.6	.0	1.2	
	15	Count	2	4	4	6	16
		Expected Count	4.0	4.0	4.1	3.9	16.0
		% within Epoch	12.5%	25.0%	25.0%	37.5%	100.0%
		% within Accuracy (Binned)	3.3%	6.7%	6.6%	10.2%	6.7%
		Adjusted Residual	-1.2	.0	.0	1.2	
Total		Count	60	60	61	59	240
		Expected Count	60.0	60.0	61.0	59.0	240.0
		% within Epoch	25.0%	25.0%	25.4%	24.6%	100.0%
		% within Accuracy (Binned)	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	40.698[a]	42	.528
Likelihood Ratio	47.653	42	.254
Linear-by-Linear Association	25.851	1	.000
N of Valid Cases	240		

a. 60 cells (100.0%) have expected count less than 5. The minimum expected count is 3.93.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.412	.528
	Cramer's V	.238	.528
N of Valid Cases		240	

Correlations

Control Variables			Step	Batch	Epoch
Accuracy (Binned) & Accuracy	Step	Correlation	1.000	.408	-.322
		Significance (2-tailed)	.	.000	.000
		df	0	236	236
	Batch	Correlation	.408	1.000	.153
		Significance (2-tailed)	.000	.	.018
		df	236	0	236
	Epoch	Correlation	-.322	.153	1.000
		Significance (2-tailed)	.000	.018	.
		df	236	236	0