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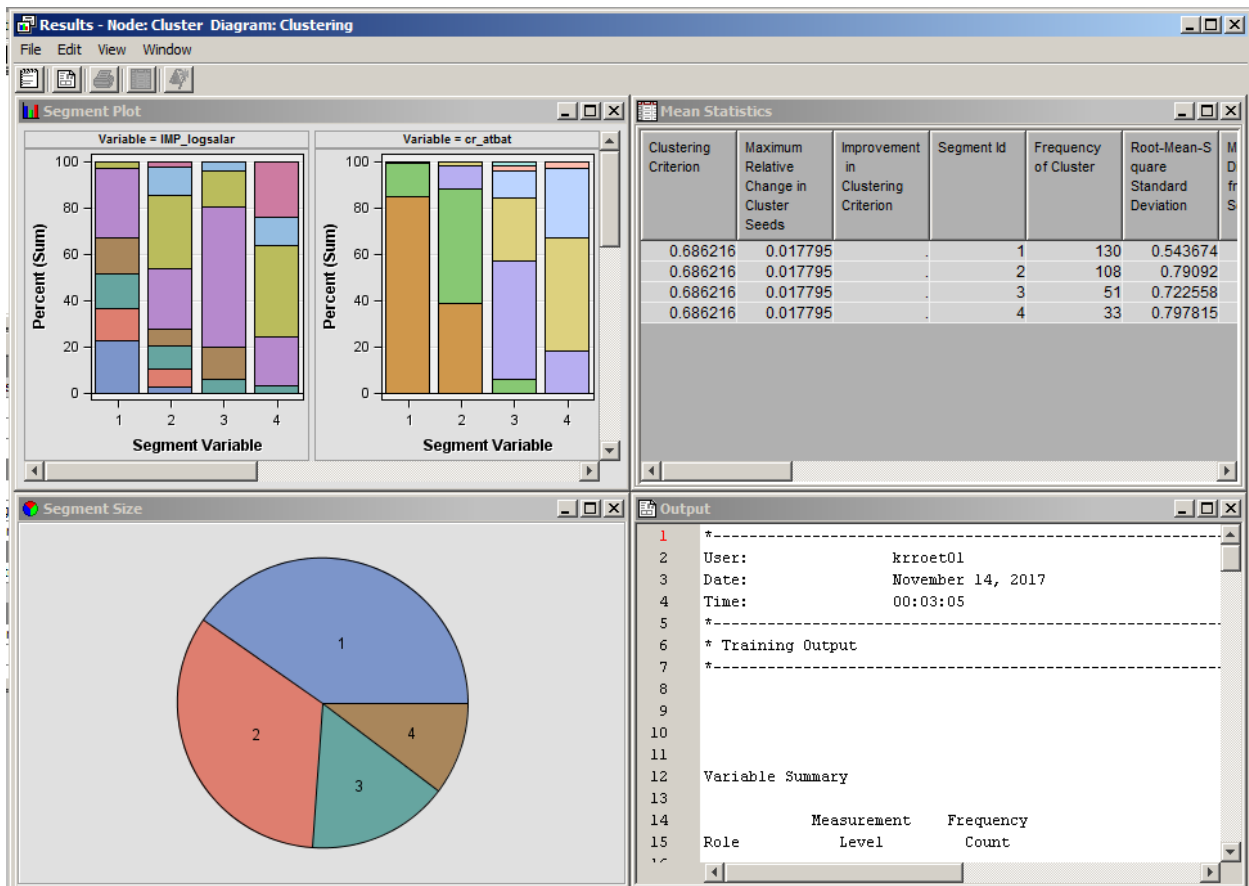
CIS 445-01: Data Mining

November 14, 2017

Tutorial 3 Report

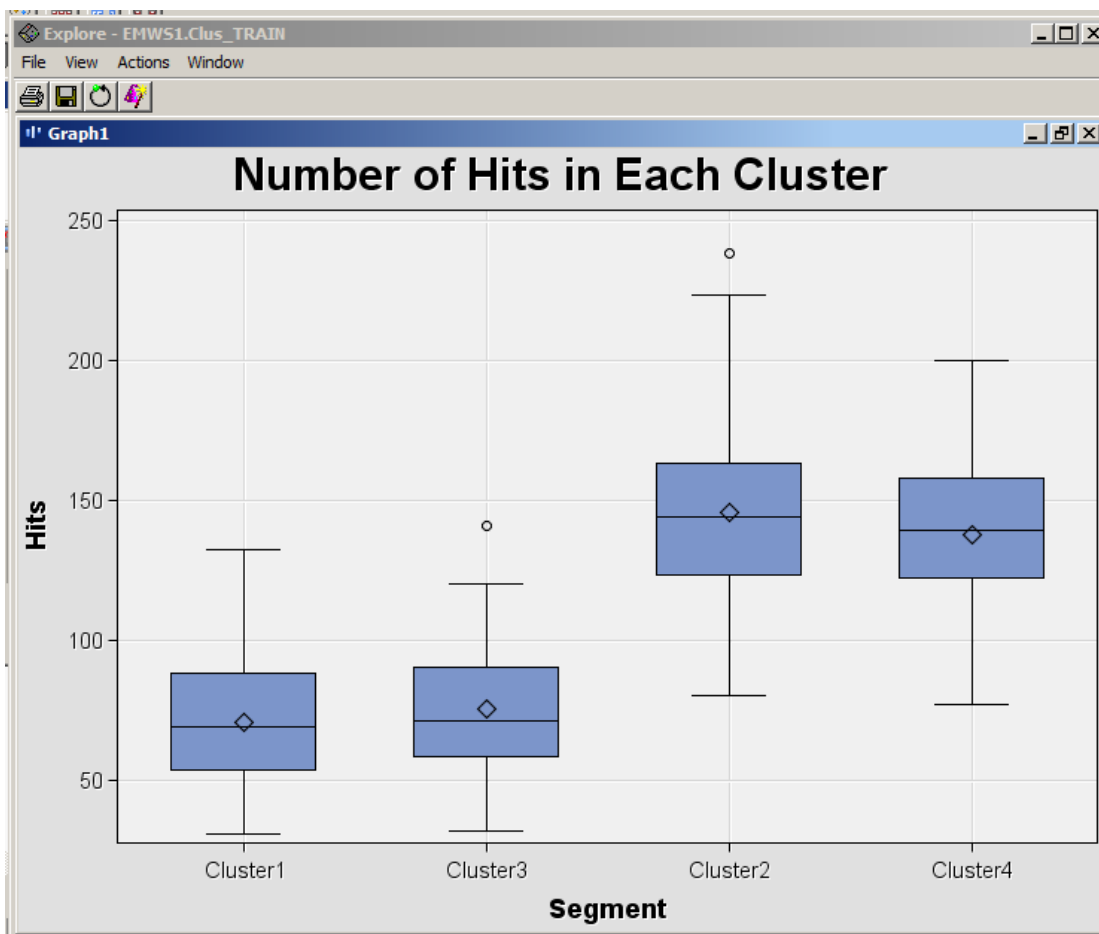
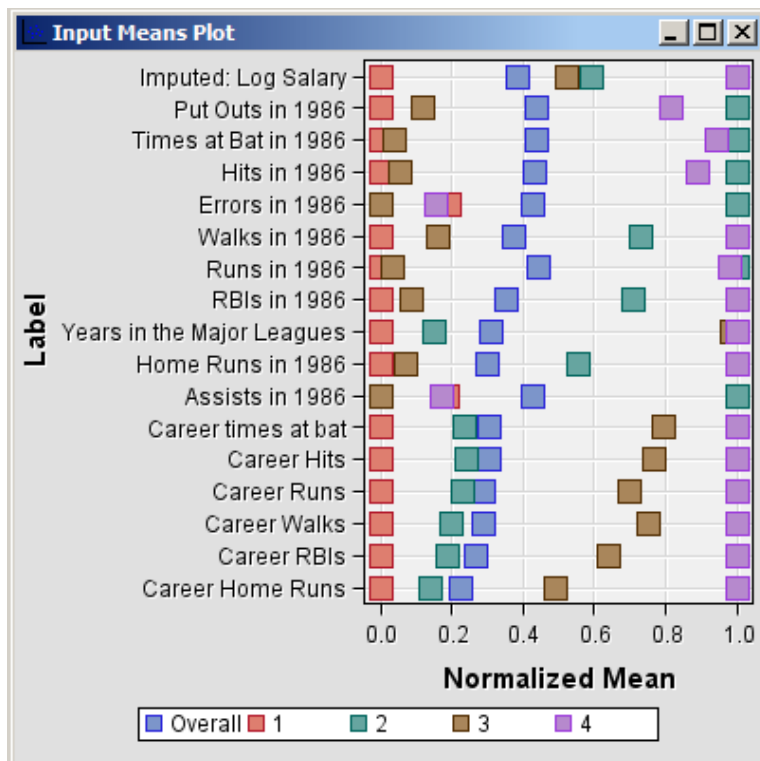
Fortunately, I encountered less problems in this tutorial than I did on all previous tutorials and projects so far. The big note I have is again, it really didn't help that the steps/instructions were not all numbered out, so I found myself getting a little lost. It was still quite challenging to decide whether or not to just read something or figure out if it's a step I needed to complete for the tutorial. So perhaps this is something to keep in mind for future tutorials and projects. Thanks to difficulties I experienced with instructions in previous tutorials, figuring out the certain steps I had to take on my own to find and edit the specific properties was not as confusing, because now I have gotten more acquainted with SAS Enterprise Miner in general and most of the material is pretty straightforward. They could've been worded a little more precisely but like I said I understand the software a lot more now so this is not a major problem, plus I'm sure these certain tutorials are already written and set up. The only major problem with this tutorial was part 3 where we had to do a link analysis diagram and I was not able to get access to the windows you requested for, but thanks to your email about the expired license that has not been updated by our IT staff yet on Persona MBA SAS, worrying about this step right now is not absolutely essential. Hopefully this problem will get resolved soon as all 3 parts are short workflow diagrams and do not take a lot of time to complete. Another note I have is that the tips on understanding the analysis nodes was a little confusing on whether or not all of the information were steps or FYIs due to the fact that most of the concepts were in bold font, but not a big deal. There were more visuals in this tutorial so that personally helped me a lot more as I am a visual learner, and thank you for the sticky notes as those are always helpful! On a scale of 1 to 10 with 10 being the highest, the instructions were a 9, and in terms of overall usefulness in getting more acquainted with this software and the 3 techniques of clustering, association analysis, and link analysis, this tutorial was a 9.

2a.



Variable Importance

Variable Name	Label	Number of Splitting Rules	Number of Surrogate Rules	Importance
no_hits	Hits in 1986	2	0	1
no_runs	Runs in 1986	0	3	0.978222
no_atbat	Times at Bat i...	0	2	0.970878
no_rbi	RBIs in 1986	0	2	0.937062
IMP_logsalar	Imputed: Log ...	0	4	0.930767
cr_rbi	Career RBIs	1	4	0.84937
cr_atbat	Career times ...	1	3	0.84107
cr_hits	Career Hits	0	4	0.832853
cr_runs	Career Runs	0	4	0.828074
no_bb	Walks in 1986	0	2	0.800739
yr_major	Years in the M...	0	3	0.776662
cr_bb	Career Walks	1	2	0.745078
no_home	Home Runs i...	1	1	0.485685
cr_home	Career Home ...	1	1	0.407838
no_assts	Assists in 1986	0	0	0
no_error	Errors in 1986	0	0	0
no_outs	Put Outs in 19...	0	0	0



2b.

2c.

Results - Node: Association Diagram: Association_Analysis												
File Edit View Window												
Rules Table												
Relations	Expected Confidence(%)	Confidence(%)	Support(%)	Lift	Transaction Count	Rule	Left Hand of Rule	Right Hand of Rule	Rule Item 1	Rule Item 2	Rule Item 3	Rule
									Rule Item 1			
2	48.75	61.00	36.56	1.25	366.00	heineken => ...	heineken	cracker	heineken	=====>	cracker	
2	59.94	75.00	36.56	1.25	366.00	cracker ==> ...	cracker	heineken	cracker	=====>	heineken	
2	48.55	48.00	28.77	0.99	288.00	heineken => ...	heineken	hering	heineken	=====>	hering	
2	59.94	59.26	28.77	0.99	288.00	hering ==> ...	hering	heineken	hering	=====>	heineken	
2	39.16	43.50	26.07	1.11	261.00	heineken => ...	heineken	baguette	heineken	=====>	baguette	
2	59.94	66.58	26.07	1.11	261.00	baguette ==> ...	baguette	heineken	baguette	=====>	heineken	
2	31.77	42.83	25.67	1.35	257.00	heineken => ...	heineken	soda	heineken	=====>	soda	
2	59.94	80.82	25.67	1.35	257.00	soda ==> ...	soda	heineken	soda	=====>	heineken	
2	47.25	52.67	25.57	1.11	256.00	hering ==> ...	hering	olives	hering	=====>	olives	
2	48.55	54.12	25.57	1.11	256.00	olives ==> ...	olives	hering	olives	=====>	hering	
2	30.47	42.00	25.17	1.38	252.00	heineken => ...	heineken	artichok	heineken	=====>	artichok	
2	59.94	82.62	25.17	1.38	252.00	artichok ==> ...	artichok	heineken	artichok	=====>	heineken	
2	48.75	78.93	25.07	1.62	251.00	soda ==> cr...	soda	cracker	soda	=====>	cracker	
2	31.77	51.43	25.07	1.62	251.00	cracker ==> ...	cracker	soda	cracker	=====>	soda	
2	39.16	51.23	24.88	1.31	249.00	hering ==> ...	hering	baguette	hering	=====>	baguette	
2	48.55	63.52	24.88	1.31	249.00	baguette ==> ...	baguette	hering	baguette	=====>	hering	
2	36.26	41.50	24.88	1.14	249.00	heineken => ...	heineken	avocado	heineken	=====>	avocado	
2	59.94	68.60	24.88	1.14	249.00	avocado ==> ...	avocado	heineken	avocado	=====>	heineken	
2	48.55	62.66	24.48	1.29	245.00	corned_b ==> ...	corned_b	hering	corned_b	=====>	hering	
2	39.06	50.41	24.48	1.29	245.00	hering ==> ...	hering	corned_b	hering	=====>	corned_b	
2	47.25	60.79	24.48	1.29	245.00	bourbon ==> ...	bourbon	olives	bourbon	=====>	olives	
2	40.26	51.80	24.48	1.29	245.00	olives ==> ...	olives	bourbon	olives	=====>	bourbon	
2	40.26	49.18	23.98	1.22	240.00	cracker ==> ...	cracker	bourbon	cracker	=====>	bourbon	
2	48.75	59.55	23.98	1.22	240.00	bourbon ==> ...	bourbon	cracker	bourbon	=====>	cracker	
2	47.25	60.61	23.68	1.28	237.00	corned_b ==> ...	corned_b	olives	corned_b	=====>	olives	
2	39.06	50.11	23.68	1.28	237.00	olives ==> c...	olives	corned_b	olives	=====>	corned_b	
2	28.27	46.72	22.08	1.65	221.00	olives ==> t...	olives	turkey	olives	=====>	turkey	
2	47.25	78.09	22.08	1.65	221.00	turkey ==> ...	turkey	olives	turkey	=====>	olives	
2	29.57	70.29	21.98	2.38	220.00	ice_crea ==> ...	ice_crea	coke	ice_crea	=====>	coke	
2	31.27	74.32	21.98	2.38	220.00	coke ==> ic...	coke	ice_crea	coke	=====>	ice_crea	
2	36.26	54.85	21.48	1.51	215.00	baguette ==> ...	baguette	avocado	baguette	=====>	avocado	
2	39.16	59.23	21.48	1.51	215.00	avocado ==> ...	avocado	baguette	avocado	=====>	baguette	

2d. (Link Analysis)

2e. (Link Analysis)