

In [4]: ChiMerge(attribute='humidity', threshold=2.71)

Result from ChiMerge algorithm for attribute = humidity , threshold = 2.71 ,
minIntervals = 2 , maxIntervals = inf

Initial Frequency Table:

	humidity	play	don't play	Total
0	65	1	0	1
1	70	2	1	3
2	75	1	0	1
3	78	1	0	1
4	80	1	2	3
5	85	1	0	1
6	90	1	1	2
7	95	0	1	1
8	96	0	1	1

Contingency table with observed values:

	play	don't play	row_sum
humidity			
65	1	0	1
70	2	1	3
column_sum	3	1	4

Contingency table with expected values:

	play	don't play	row_sum
humidity			
65	0.75	0.25	1
70	2.25	0.75	3
column_sum	3	1	4

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
65	0.0833333	0.125	1
70	0.0277778	0.0833333	3
column_sum	3	1	4

Contingency table with observed values:

	play	don't play	row_sum
humidity			
70	2	1	3
75	1	0	1
column_sum	3	1	4

Contingency table with expected values:

	play	don't play	row_sum
humidity			
70	2.25	0.75	3
75	0.75	0.25	1
column_sum	3	1	4

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
70	0.0277778	0.0833333	3

75	0.0833333	0.125	1
column_sum	3	1	4

Contingency table with observed values:

	play	don't play	row_sum
humidity			
75	1	0	1
78	1	0	1
column_sum	2	0	2

Contingency table with expected values:

	play	don't play	row_sum
humidity			
75	1	0	1
78	1	0	1
column_sum	2	0	2

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
75	0	0	1
78	0	0	1
column_sum	2	0	2

Contingency table with observed values:

	play	don't play	row_sum
humidity			
78	1	0	1
80	1	2	3
column_sum	2	2	4

Contingency table with expected values:

	play	don't play	row_sum
humidity			
78	0.5	0.5	1
80	1.5	1.5	3
column_sum	2	2	4

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
78	0.5	0.5	1
80	0.166667	0.166667	3
column_sum	2	2	4

Contingency table with observed values:

	play	don't play	row_sum
humidity			
80	1	2	3
85	1	0	1
column_sum	2	2	4

Contingency table with expected values:

	play	don't play	row_sum
humidity			

80	1.5	1.5	3
85	0.5	0.5	1
column_sum	2	2	4

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
80	0.166667	0.166667	3
85	0.5	0.5	1
column_sum	2	2	4

Contingency table with observed values:

	play	don't play	row_sum
humidity			
85	1	0	1
90	1	1	2
column_sum	2	1	3

Contingency table with expected values:

	play	don't play	row_sum
humidity			
85	0.666667	0.333333	1
90	1.33333	0.666667	2
column_sum	2	1	3

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
85	0.166667	0.222222	1
90	0.0833333	0.166667	2
column_sum	2	1	3

Contingency table with observed values:

	play	don't play	row_sum
humidity			
90	1	1	2
95	0	1	1
column_sum	1	2	3

Contingency table with expected values:

	play	don't play	row_sum
humidity			
90	0.666667	1.33333	2
95	0.333333	0.666667	1
column_sum	1	2	3

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
90	0.166667	0.0833333	2
95	0.222222	0.166667	1
column_sum	1	2	3

Contingency table with observed values:

	play	don't play	row_sum
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humidity			
95	0	1	1
96	0	1	1
column_sum	0	2	2

Contingency table with expected values:

	play	don't play	row_sum
humidity			
95	0	1	1
96	0	1	1
column_sum	0	2	2

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
95	0	0	1
96	0	0	1
column_sum	0	2	2

Frequency Table with Chi Square (Before merging):

	humidity	play	don't play	Total	chi_square
0	65	1	0	1	0.319444
1	70	2	1	3	0.319444
2	75	1	0	1	0
3	78	1	0	1	1.33333
4	80	1	2	3	1.33333
5	85	1	0	1	0.638889
6	90	1	1	2	0.638889
7	95	0	1	1	0
8	96	0	1	1	None

Frequency Table with Chi Square (After merging):

	humidity	play	don't play	Total	chi_square
0	65	1	0	1	0.319444
1	70	2	1	3	0.319444
2	75	2	0	2	None
3	80	1	2	3	1.33333
4	85	1	0	1	0.638889
5	90	1	1	2	0.638889
6	95	0	1	1	0
7	96	0	1	1	None

Contingency table with observed values:

	play	don't play	row_sum
humidity			
70	2	1	3
75	2	0	2
column_sum	4	1	5

Contingency table with expected values:

	play	don't play	row_sum
humidity			
70	2.4	0.6	3
75	1.6	0.4	2

column_sum	4	1	5
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Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
70	0.0666667	0.266667	3
75	0.1	0.32	2
column_sum	4	1	5

Contingency table with observed values:

	play	don't play	row_sum
humidity			
75	2	0	2
80	1	2	3
column_sum	3	2	5

Contingency table with expected values:

	play	don't play	row_sum
humidity			
75	1.2	0.8	2
80	1.8	1.2	3
column_sum	3	2	5

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
75	0.533333	0.8	2
80	0.355556	0.533333	3
column_sum	3	2	5

Frequency Table with Chi Square (Before merging):

	humidity	play	don't play	Total	chi_square
0	65	1	0	1	0.319444
1	70	2	1	3	0.753333
2	75	2	0	2	2.22222
3	80	1	2	3	1.33333
4	85	1	0	1	0.638889
5	90	1	1	2	0.638889
6	95	0	1	1	0
7	96	0	1	1	None

Frequency Table with Chi Square (After merging):

	humidity	play	don't play	Total	chi_square
0	65	1	0	1	0.319444
1	70	2	1	3	0.753333
2	75	2	0	2	2.22222
3	80	1	2	3	1.33333
4	85	1	0	1	0.638889
5	90	1	1	2	0.638889
6	95	0	2	2	None

Contingency table with observed values:

	play	don't play	row_sum
humidity			

90	1	1	2
95	0	2	2
column_sum	1	3	4

Contingency table with expected values:

	play	don't play	row_sum
humidity			
90	0.5	1.5	2
95	0.5	1.5	2
column_sum	1	3	4

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
90	0.5	0.166667	2
95	0.5	0.166667	2
column_sum	1	3	4

Frequency Table with Chi Square (Before merging):

	humidity	play	don't play	Total	chi_square
0	65	1	0	1	0.319444
1	70	2	1	3	0.753333
2	75	2	0	2	2.22222
3	80	1	2	3	1.33333
4	85	1	0	1	0.638889
5	90	1	1	2	1.33333
6	95	0	2	2	None

Frequency Table with Chi Square (After merging):

	humidity	play	don't play	Total	chi_square
0	65	3	1	4	None
1	75	2	0	2	2.22222
2	80	1	2	3	1.33333
3	85	1	0	1	0.638889
4	90	1	1	2	1.33333
5	95	0	2	2	None

Contingency table with observed values:

	play	don't play	row_sum
humidity			
65	3	1	4
75	2	0	2
column_sum	5	1	6

Contingency table with expected values:

	play	don't play	row_sum
humidity			
65	3.33333	0.666667	4
75	1.66667	0.333333	2
column_sum	5	1	6

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			

65	0.0333333	0.166667	4
75	0.0666667	0.222222	2
column_sum	5	1	6

Frequency Table with Chi Square (Before merging):

	humidity	play	don't play	Total	chi_square
0	65	3	1	4	0.488889
1	75	2	0	2	2.22222
2	80	1	2	3	1.33333
3	85	1	0	1	0.638889
4	90	1	1	2	1.33333
5	95	0	2	2	None

Frequency Table with Chi Square (After merging):

	humidity	play	don't play	Total	chi_square
0	65	5	1	6	None
1	80	1	2	3	1.33333
2	85	1	0	1	0.638889
3	90	1	1	2	1.33333
4	95	0	2	2	None

Contingency table with observed values:

	play	don't play	row_sum
humidity			
65	5	1	6
80	1	2	3
column_sum	6	3	9

Contingency table with expected values:

	play	don't play	row_sum
humidity			
65	4	2	6
80	2	1	3
column_sum	6	3	9

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
65	0.25	0.5	6
80	0.5	1	3
column_sum	6	3	9

Frequency Table with Chi Square (Before merging):

	humidity	play	don't play	Total	chi_square
0	65	5	1	6	2.25
1	80	1	2	3	1.33333
2	85	1	0	1	0.638889
3	90	1	1	2	1.33333
4	95	0	2	2	None

Frequency Table with Chi Square (After merging):

	humidity	play	don't play	Total	chi_square
0	65	5	1	6	2.25
1	80	1	2	3	1.33333

2	85	2	1	3	None
3	95	0	2	2	None

Contingency table with observed values:

	play	don't	play	row_sum
humidity				
80	1	2	3	
85	2	1	3	
column_sum	3	3	6	

Contingency table with expected values:

	play	don't	play	row_sum
humidity				
80	1.5	1.5	3	
85	1.5	1.5	3	
column_sum	3	3	6	

Contingency table with Chi square value:

	play	don't	play	row_sum
humidity				
80	0.166667	0.166667	3	
85	0.166667	0.166667	3	
column_sum	3	3	6	

Contingency table with observed values:

	play	don't	play	row_sum
humidity				
85	2	1	3	
95	0	2	2	
column_sum	2	3	5	

Contingency table with expected values:

	play	don't	play	row_sum
humidity				
85	1.2	1.8	3	
95	0.8	1.2	2	
column_sum	2	3	5	

Contingency table with Chi square value:

	play	don't	play	row_sum
humidity				
85	0.533333	0.355556	3	
95	0.8	0.533333	2	
column_sum	2	3	5	

Frequency Table with Chi Square (Before merging):

humidity	play	don't	play	Total	chi_square
0	65	5	1	6	2.25
1	80	1	2	3	0.666667
2	85	2	1	3	2.22222
3	95	0	2	2	None

Frequency Table with Chi Square (After merging):

humidity	play	don't	play	Total	chi_square
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0	65	5	1	6	2.25
1	80	3	3	6	None
2	95	0	2	2	None

Contingency table with observed values:

	play	don't play	row_sum
humidity			
65	5	1	6
80	3	3	6
column_sum	8	4	12

Contingency table with expected values:

	play	don't play	row_sum
humidity			
65	4	2	6
80	4	2	6
column_sum	8	4	12

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
65	0.25	0.5	6
80	0.25	0.5	6
column_sum	8	4	12

Contingency table with observed values:

	play	don't play	row_sum
humidity			
80	3	3	6
95	0	2	2
column_sum	3	5	8

Contingency table with expected values:

	play	don't play	row_sum
humidity			
80	2.25	3.75	6
95	0.75	1.25	2
column_sum	3	5	8

Contingency table with Chi square value:

	play	don't play	row_sum
humidity			
80	0.25	0.15	6
95	0.75	0.45	2
column_sum	3	5	8

Frequency Table with Chi Square (Before merging):

	humidity	play	don't play	Total	chi_square
0	65	5	1	6	1.5
1	80	3	3	6	1.6
2	95	0	2	2	None

Frequency Table with Chi Square (After merging):

	humidity	play	don't play	Total	chi_square
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0	65	8	4	12	None
1	95	0	2	2	None

In [5]: