

Weilin Lu

Q1

1

	variance	skewness	curtosis	entropy	class	Color
0	3.62160	8.66610	-2.8073	-0.44699	0	green
1	4.54590	8.16740	-2.4586	-1.46210	0	green
2	3.86600	-2.63830	1.9242	0.10645	0	green
3	3.45660	9.52280	-4.0112	-3.59440	0	green
4	0.32924	-4.45520	4.5718	-0.98880	0	green
...
1367	0.40614	1.34920	-1.4501	-0.55949	1	red
1368	-1.38870	-4.87730	6.4774	0.34179	1	red
1369	-3.75030	-13.45860	17.5932	-2.77710	1	red
1370	-3.56370	-8.38270	12.3930	-1.28230	1	red
1371	-2.54190	-0.65804	2.6842	1.19520	1	red

2

class	Mean(f1)	STD(f1)	Mean(f2)	STD(f2)	Mean(f3)	STD(f3)	Mean(f4)	STD(f4)
0	2.28	2.02	4.26	5.14	0.8	3.24	-1.15	2.13
1	2.28	2.02	4.26	5.14	0.8	3.24	-1.15	2.13
all	0.43	2.84	1.92	5.87	1.4	4.13	-1.19	0.5

3

From this label, we can see if we divide the table into two parts, the mean and STD of these two parts are the same value and their STD is less than the STD of all values(except f4)

Q2

2&3

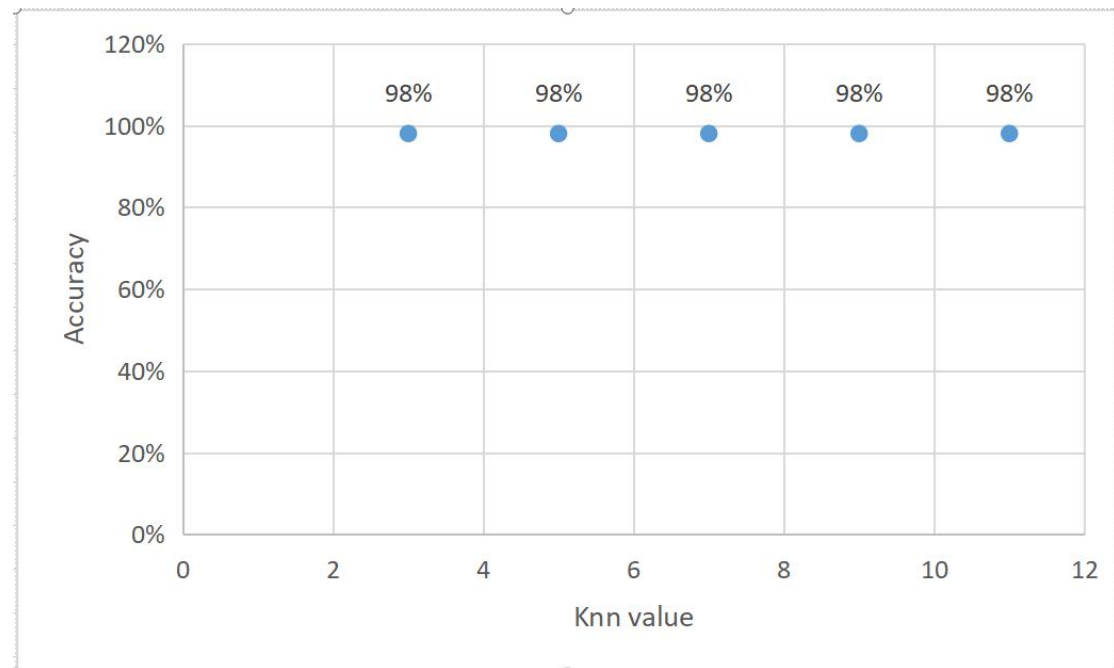
Please see the excel file:Weilin_Lu_Assign6_Simple.xlsx

4&5

TP	FP	TN	FN	Accuracy	TPR	TNR
14	25	1	10	78%	0.583	0.962

Q3

2



For more detail please see excel file:Weilin_Lu_Assign6_Knn.xlsx

3

TP	FP	TN	FN	Accuracy	TPR	TNR
27	22	0	1	98%	0.9643	1

4

Yes,it is better

5

Knn predict

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When k = 3 [0.]
When k = 5 [0.]
When k = 7 [0.]
When k = 9 [0.]
When k = 11 [0.]
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Simple classifier

0