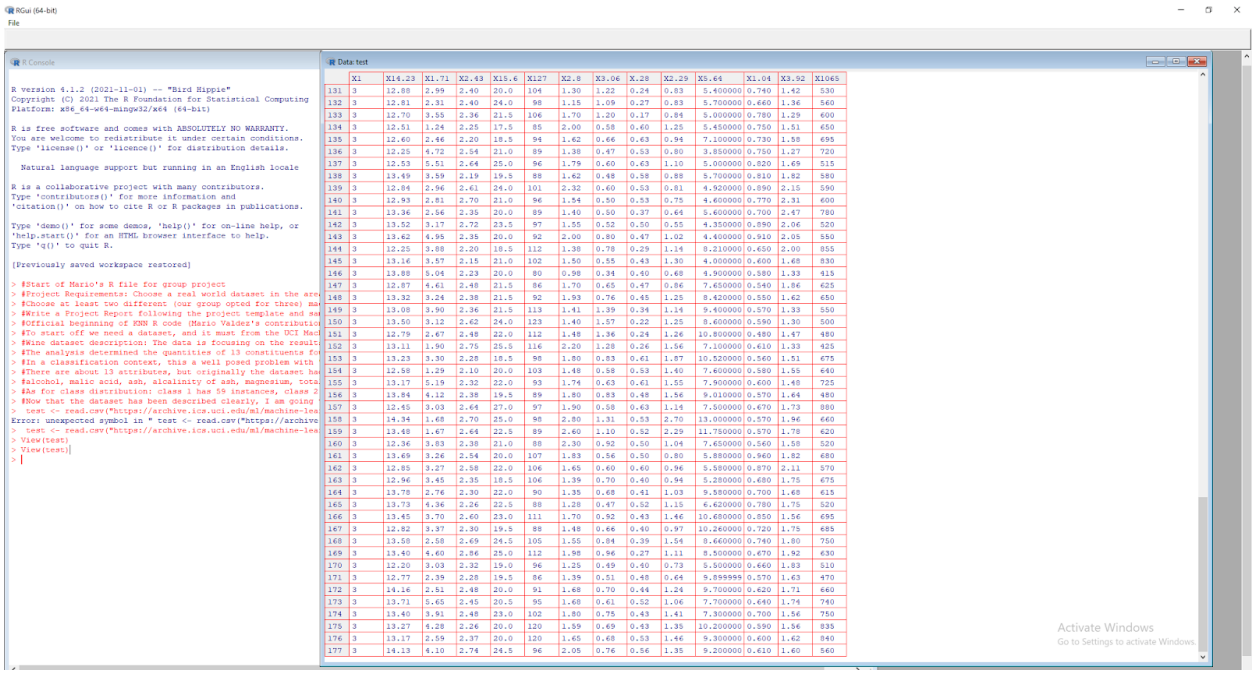
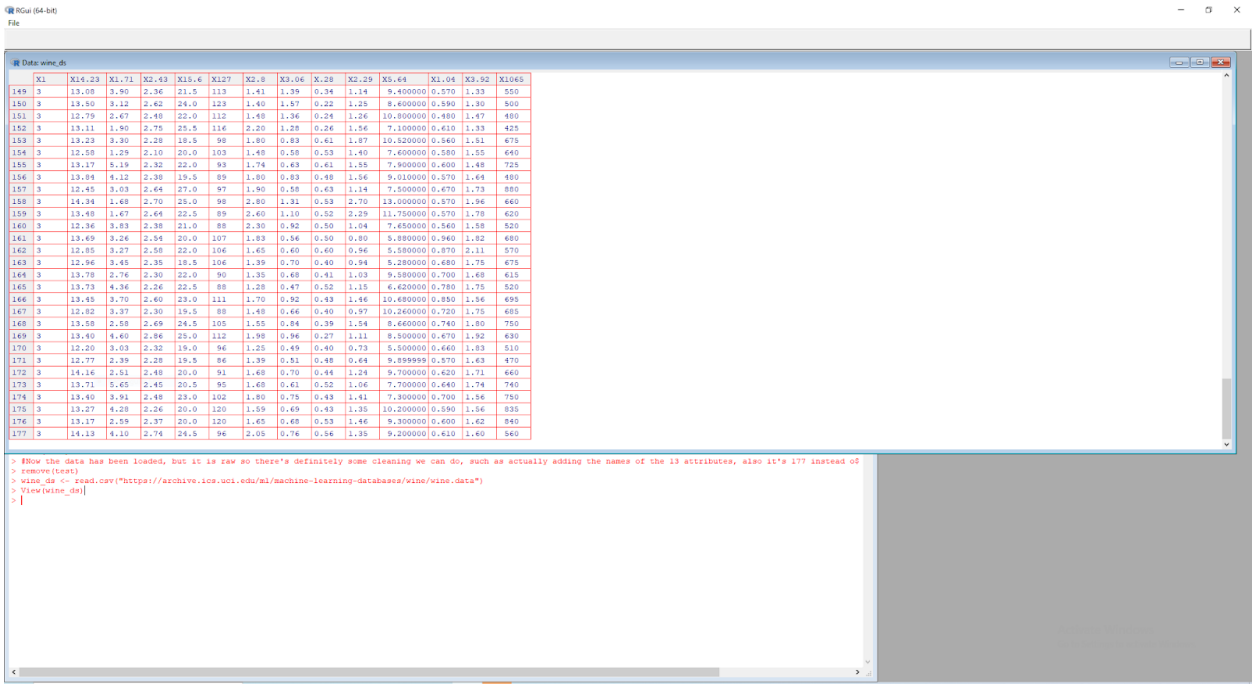


	X1	X14.23	X1.71	X2.43	X15.6	X127	X2.8	X3.06	X.28	X2.29	X5.64	X1.04	X3.92	X1065
131	3	12.88	2.99	2.40	20.0	104	1.30	1.22	0.24	0.83	5.400000	0.740	1.42	530
132	3	12.81	2.31	2.40	24.0	98	1.15	1.09	0.27	0.83	5.700000	0.660	1.36	560
133	3	12.70	3.55	2.36	21.5	106	1.70	1.20	0.17	0.84	5.000000	0.780	1.29	600
134	3	12.51	1.24	2.25	17.5	85	2.00	0.58	0.60	1.25	5.450000	0.750	1.51	650
135	3	12.60	2.46	2.20	18.5	94	1.62	0.66	0.63	0.94	7.100000	0.730	1.58	695
136	3	12.25	4.72	2.54	21.0	89	1.38	0.47	0.53	0.80	3.850000	0.750	1.27	720
137	3	12.53	5.51	2.64	25.0	96	1.79	0.60	0.63	1.10	5.000000	0.820	1.69	515
138	3	13.49	3.59	2.19	19.5	88	1.62	0.48	0.58	0.88	5.700000	0.810	1.82	580
139	3	12.84	2.96	2.61	24.0	101	2.32	0.60	0.53	0.81	4.920000	0.890	2.15	590
140	3	12.93	2.81	2.70	21.0	96	1.54	0.50	0.53	0.75	4.600000	0.770	2.31	600
141	3	13.36	2.56	2.35	20.0	89	1.40	0.50	0.37	0.64	5.600000	0.700	2.47	780
142	3	13.52	3.17	2.72	23.5	97	1.55	0.52	0.50	0.55	4.350000	0.890	2.06	520
143	3	13.62	4.95	2.35	20.0	92	2.00	0.80	0.47	1.02	4.400000	0.910	2.05	550
144	3	12.25	3.88	2.20	18.5	112	1.38	0.78	0.29	1.14	8.210000	0.650	2.00	855
145	3	13.16	3.57	2.15	21.0	102	1.50	0.55	0.43	1.30	4.000000	0.600	1.68	830
146	3	13.88	5.04	2.23	20.0	80	0.98	0.34	0.40	0.68	4.900000	0.580	1.33	415
147	3	12.87	4.61	2.48	21.5	86	1.70	0.65	0.47	0.86	7.650000	0.540	1.86	625
148	3	13.32	3.24	2.38	21.5	92	1.93	0.76	0.45	1.25	8.420000	0.550	1.62	650
149	3	13.08	3.90	2.36	21.5	113	1.41	1.39	0.34	1.14	9.400000	0.570	1.33	550
150	3	13.50	3.12	2.62	24.0	123	1.40	1.57	0.22	1.25	8.600000	0.590	1.30	500
151	3	12.79	2.67	2.48	22.0	112	1.48	1.36	0.24	1.26	10.800000	0.480	1.47	480
152	3	13.11	1.90	2.75	25.5	116	2.20	1.28	0.26	1.56	7.100000	0.610	1.33	425
153	3	13.23	3.30	2.28	18.5	98	1.80	0.83	0.61	1.87	10.520000	0.560	1.51	675
154	3	12.58	1.29	2.10	20.0	103	1.48	0.58	0.53	1.40	7.600000	0.580	1.55	640
155	3	13.17	5.19	2.32	22.0	93	1.74	0.63	0.61	1.55	7.900000	0.600	1.48	725
156	3	13.84	4.12	2.38	19.5	89	1.80	0.83	0.48	1.56	9.010000	0.570	1.64	480
157	3	12.45	3.03	2.64	27.0	97	1.90	0.58	0.63	1.14	7.500000	0.670	1.73	880
158	3	14.34	1.68	2.70	25.0	98	2.80	1.31	0.53	2.70	13.000000	0.570	1.96	660
159	3	13.48	1.67	2.64	22.5	89	2.60	1.10	0.52	2.29	11.750000	0.570	1.78	620
160	3	12.36	3.83	2.38	21.0	88	2.30	0.92	0.50	1.04	7.650000	0.560	1.58	520
161	3	13.69	3.26	2.54	20.0	107	1.83	0.56	0.50	0.80	5.880000	0.960	1.82	680
162	3	12.85	3.27	2.58	22.0	106	1.65	0.60	0.60	0.96	5.580000	0.870	2.11	570
163	3	12.96	3.45	2.35	18.5	106	1.39	0.70	0.40	0.94	5.280000	0.680	1.75	675
164	3	13.78	2.76	2.30	22.0	90	1.35	0.68	0.41	1.03	9.580000	0.700	1.68	615
165	3	13.73	4.36	2.26	22.5	88	1.28	0.47	0.52	1.15	6.620000	0.780	1.75	520
166	3	13.45	3.70	2.60	23.0	111	1.70	0.92	0.43	1.46	10.680000	0.850	1.56	695
167	3	12.82	3.37	2.30	19.5	88	1.48	0.66	0.40	0.97	10.260000	0.720	1.75	685
168	3	13.58	2.58	2.69	24.5	105	1.55	0.84	0.39	1.54	8.660000	0.740	1.80	750
169	3	13.40	4.60	2.86	25.0	112	1.98	0.96	0.27	1.11	8.500000	0.670	1.92	630
170	3	12.20	3.03	2.32	19.0	96	1.25	0.49	0.40	0.73	5.500000	0.660	1.83	510
171	3	12.77	2.39	2.28	19.5	86	1.39	0.51	0.48	0.64	9.899999	0.570	1.63	470
172	3	14.16	2.51	2.48	20.0	91	1.68	0.70	0.44	1.24	9.700000	0.620	1.71	660
173	3	13.71	5.65	2.45	20.5	95	1.68	0.61	0.52	1.06	7.700000	0.640	1.74	740
174	3	13.40	3.91	2.48	23.0	102	1.80	0.75	0.43	1.41	7.300000	0.700	1.56	750
175	3	13.27	4.28	2.26	20.0	120	1.59	0.69	0.43	1.35	10.200000	0.590	1.56	835
176	3	13.17	2.59	2.37	20.0	120	1.65	0.68	0.53	1.46	9.300000	0.600	1.62	840
177	3	14.13	4.10	2.74	24.5	96	2.05	0.76	0.56	1.35	9.200000	0.610	1.60	560

Note: It's obviously a lot of instances, so I couldn't get a full screen, but the other classes (class 1 + 2) can be scrolled above (1st output)

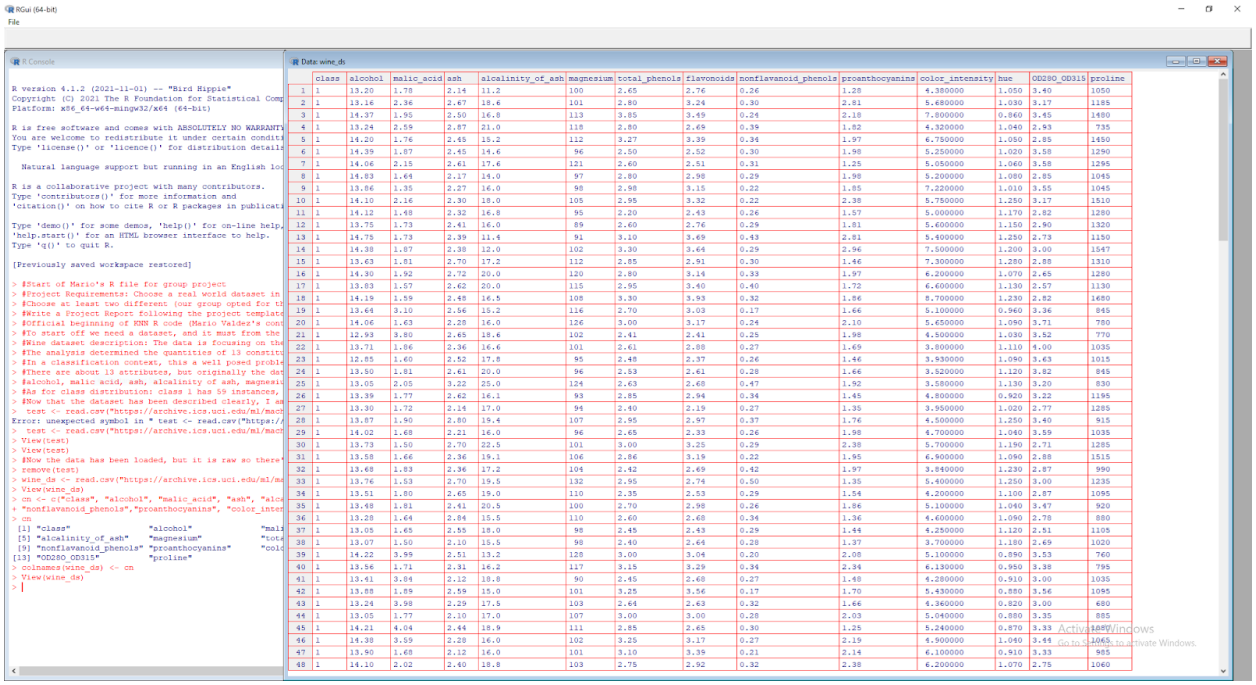
2nd output: Testing new name of wine_ds, prefer it over generic “test”



	X1	X14.23	X1.71	X2.43	X15.6	X127	X2.8	X3.06	X.28	X2.29	X5.64	X1.04	X3.92	X1065
149	3	13.08	3.90	2.36	21.5	113	1.41	1.39	0.34	1.14	9.400000	0.570	1.33	550
150	3	13.50	3.12	2.62	24.0	123	1.40	1.57	0.22	1.25	8.600000	0.590	1.30	500
151	3	12.79	2.67	2.48	22.0	112	1.48	1.36	0.24	1.26	10.800000	0.480	1.47	480
152	3	13.11	1.90	2.75	25.5	116	2.20	1.28	0.26	1.56	7.100000	0.610	1.33	425
153	3	13.23	3.30	2.28	18.5	98	1.80	0.83	0.61	1.87	10.520000	0.560	1.51	675
154	3	12.58	1.29	2.10	20.0	103	1.48	0.58	0.53	1.40	7.600000	0.580	1.55	640
155	3	13.17	5.19	2.32	22.0	93	1.74	0.63	0.61	1.55	7.900000	0.600	1.48	725
156	3	13.84	4.12	2.38	19.5	89	1.80	0.83	0.48	1.56	9.010000	0.570	1.64	480
157	3	12.45	3.03	2.64	27.0	97	1.90	0.58	0.63	1.14	7.500000	0.670	1.73	880
158	3	14.34	1.68	2.70	25.0	98	2.80	1.31	0.53	2.70	13.000000	0.570	1.96	660
159	3	13.48	1.67	2.64	22.5	89	2.60	1.10	0.52	2.29	11.750000	0.570	1.78	620
160	3	12.36	3.83	2.38	21.0	88	2.30	0.92	0.50	1.04	7.650000	0.560	1.58	520
161	3	13.69	3.26	2.54	20.0	107	1.83	0.56	0.50	0.80	5.880000	0.960	1.82	680
162	3	12.85	3.27	2.58	22.0	106	1.65	0.60	0.60	0.96	5.580000	0.870	2.11	570
163	3	12.96	3.45	2.35	18.5	106	1.39	0.70	0.40	0.94	5.280000	0.680	1.75	675
164	3	13.78	2.76	2.30	22.0	90	1.35	0.68	0.41	1.03	9.580000	0.700	1.68	615
165	3	13.73	4.36	2.26	22.5	88	1.28	0.47	0.52	1.15	6.620000	0.780	1.75	520
166	3	13.45	3.70	2.60	23.0	111	1.70	0.92	0.43	1.46	10.680000	0.850	1.56	695
167	3	12.82	3.37	2.30	19.5	88	1.48	0.66	0.40	0.97	10.260000	0.720	1.75	685
168	3	13.58	2.58	2.69	24.5	105	1.55	0.84	0.39	1.54	8.660000	0.740	1.80	750
169	3	13.40	4.60	2.86	25.0	112	1.98	0.96	0.27	1.11	8.500000	0.670	1.92	630
170	3	12.20	3.03	2.32	19.0	96	1.25	0.49	0.40	0.73	5.500000	0.660	1.83	510
171	3	12.77	2.39	2.28	19.5	86	1.39	0.51	0.48	0.64	9.899999	0.570	1.63	470
172	3	14.16	2.51	2.48	20.0	91	1.68	0.70	0.44	1.24	9.700000	0.620	1.71	660
173	3	13.71	5.65	2.45	20.5	95	1.68	0.61	0.52	1.06	7.700000	0.640	1.74	740
174	3	13.40	3.91	2.48	23.0	102	1.80	0.75	0.43	1.41	7.300000	0.700	1.56	750
175	3	13.27	4.28	2.26	20.0	120	1.59	0.69	0.43	1.35	10.200000	0.590	1.56	835
176	3	13.17	2.59	2.37	20.0	120	1.65	0.68	0.53	1.46	9.300000	0.600	1.62	840
177	3	14.13	4.10	2.74	24.5	96	2.05	0.76	0.56	1.35	9.200000	0.610	1.60	560

```
> #Now the data has been loaded, but it is raw so there's definitely some cleaning we can do, such as actually adding the names of the 13 attributes, also it's 177 instead of
> remove(test)
> wine_ds <- read.csv("https://archive.ics.uci.edu/ml/machine-learning-databases/wine/wine.data")
> View(wine_ds)
>
```

3rd output: Now with named attributes



	class	alcohol	malic_acid	ash	alcalinity_of_ash	magnesium	total_phenols	flavonoids	nonflavanoid_phenols	proanthocyanins	color_intensity	hue	OD280_OD315	proline
1	1	13.20	1.78	2.14	11.2	100	2.65	2.76	0.26	1.28	4.380000	1.050	3.40	1050
2	1	13.16	2.36	2.67	18.6	101	2.80	3.24	0.30	2.81	5.680000	1.030	3.17	1185
3	1	14.37	1.95	2.50	16.8	113	3.85	3.49	0.24	2.18	7.800000	0.860	3.45	1480
4	1	13.24	2.59	2.87	21.0	118	2.80	2.69	0.39	1.82	4.320000	1.040	2.93	735
5	1	14.20	1.76	2.45	15.2	112	3.27	3.39	0.34	1.97	6.750000	1.050	2.85	1450
6	1	14.39	1.87	2.45	14.6	96	2.50	2.52	0.30	1.98	5.250000	1.020	3.58	1290
7	1	14.06	2.15	2.61	17.6	121	2.60	2.51	0.31	1.25	5.050000	1.060	3.58	1295
8	1	14.83	1.64	2.17	14.0	97	2.80	2.98	0.29	1.98	5.200000	1.080	2.85	1045
9	1	13.86	1.35	2.27	16.0	98	2.98	3.15	0.22	1.85	7.220000	1.010	3.55	1045
10	1	14.10	2.16	2.30	18.0	105	2.95	3.32	0.22	2.38	5.750000	1.250	3.17	1510
11	1	14.12	1.48	2.32	16.8	95	2.20	2.43	0.26	1.57	5.000000	1.170	2.82	1280
12	1	13.75	1.73	2.41	16.0	89	2.60	2.76	0.29	1.81	5.600000	1.150	2.90	1320
13	1	14.75	1.73	2.39	11.4	91	3.10	3.69	0.43	2.81	5.400000	1.250	2.73	1150
14	1	14.38	1.87	2.38	12.0	102	3.30	3.64	0.29	2.96	7.500000	1.200	3.00	1547
15	1	13.63	1.81	2.70	17.2	112	2.85	2.91	0.30	1.46	7.300000	1.280	2.88	1310
16	1	14.30	1.92	2.72	20.0	120	2.80	3.14	0.33	1.97	6.200000	1.070	2.65	1280
17	1	13.83	1.57	2.62	20.0	115	2.95	3.40	0.40	1.72	6.600000	1.130	2.57	1130
18	1	14.19	1.59	2.48	16.5	108	3.30	3.93	0.32	1.86	8.700000	1.230	2.82	1680
19	1	13.64	3.10	2.56	15.2	116	2.70	3.03	0.17	1.66	5.100000	0.960	3.36	845
20	1	14.06	1.63	2.28	16.0	126	3.00	3.17	0.24	2.10	5.650000	1.090	3.71	780
21	1	12.93	3.80	2.65	18.6	102	2.41	2.41	0.25	1.98	4.500000	1.030	3.52	770
22	1	13.71	1.86	2.36	16.6	101	2.61	2.88	0.27	1.69	3.800000	1.110	4.00	1035
23	1	12.85	1.60	2.52	17.8	95	2.48	2.37	0.26	1.46	3.930000	1.090	3.63	1015
24	1	13.50	1.81	2.61	20.0	96	2.53	2.61	0.28	1.66	3.520000	1.120	3.82	845
25	1	13.05	2.05	3.22	25.0	124	2.63	2.68	0.47	1.92	3.580000	1.130	3.20	830
26	1	13.39	1.77	2.62	16.1	93	2.85	2.94	0.34	1.45	4.800000	0.920	3.22	1195
27	1	13.30	1.72	2.14	17.0	94	2.40	2.19	0.27	1.35	3.950000	1.020	2.77	1285
28	1	13.87	1.90	2.80	19.4	107	2.95	2.97	0.37	1.76	4.500000	1.250	3.40	915
29	1	14.02	1.68	2.21	16.0	96	2.65	2.33	0.26	1.98	4.700000	1.040	3.59	1035
30	1	13.73	1.50	2.70	22.5	101	3.00	3.25	0.29	2.38	5.700000	1.190	2.71	1285
31	1	13.58	1.66	2.36	19.1	106	2.86	3.19	0.22	1.95	6.900000	1.090	2.88	1515
32	1	13.68	1.83	2.36	17.2	104	2.42	2.69	0.42	1.97	3.840000	1.230	2.87	990
33	1	13.76	1.53	2.70	19.5	132	2.95	2.74	0.50	1.35	5.400000	1.250	3.00	1235
34	1	13.51	1.80	2.65	19.0	110	2.35	2.53	0.29	1.54	4.200000	1.100	2.87	1095
35	1	13.48	1.81	2.41	20.5	100	2.70	2.98	0.26	1.86	5.100000	1.040	3.47	920
36	1	13.28	1.64	2.84	15.5	110	2.60	2.68	0.34	1.36	4.600000	1.090	2.78	880
37	1	13.05	1.65	2.55	18.0	98	2.45	2.43	0.29	1.44	4.250000	1.120	2.51	1105
38	1	13.07	1.50	2.10	15.5	98	2.40	2.64	0.28	1.37	3.700000	1.180	2.69	1020
39	1	14.22	3.99	2.51	13.2	128	3.00	3.04	0.20	2.08	5.100000	0.890	3.53	760
40	1	13.56	1.71	2.31	16.2	117	3.15	3.29	0.34	2.34	6.130000	0.950	3.38	795
41	1	13.41	3.84	2.12	18.8	90	2.45	2.68	0.27	1.48	4.280000	0.910	3.00	1035
42	1	13.88	1.89	2.59	15.0	101	3.25	3.56	0.17	1.70	5.430000	0.880	3.56	1095
43	1	13.24	3.98	2.29	17.5	103	2.64	2.63	0.32	1.66	4.360000	0.820	3.00	680
44	1	13.05	1.77	2.10	17.0	107	3.00	3.00	0.28	2.03	5.040000	0.880	3.35	885
45	1	14.21	4.04	2.44	18.9	111	2.85	2.65	0.30	1.25	5.240000	0.870	3.33	1080
46	1	14.38	3.59	2.28	16.0	102	3.25	3.17	0.27	2.19	4.900000	1.040	3.44	1065
47	1	13.90	1.68	2.12	16.0	101	3.10	3.39	0.21	2.14	6.100000	0.910	3.33	985
48	1	14.10	2.02	2.40	18.8	103	2.75	2.92	0.32	2.38	6.200000	1.070	2.75	1060

```
R version 4.1.2 (2021-11-01) -- "Bird Hippie"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> #Start of Mario's R file for group project
> #Project Requirements: Choose a real world dataset in
> #Choose at least two different (our group opted for t
> #Write a Project Report following the project templat
> #Official beginning of KNN R code (Mario Valdez's cont
> #To start off we need a dataset, and it must from the
> #Wine dataset description: The data is focusing on the
> #The analysis determined the quantities of 13 constit
> #In a classification context, this a well posed probl
> #There are about 13 attributes, but originally the da
> #alcohol, malic acid, ash, alcalinity of ash, magnesi
> #As for class distribution: class 1 has 59 instances,
> #Now that the dataset has been described clearly, I a
>  test <- read.csv("https://archive.ics.uci.edu/ml/mach
Error: unexpected symbol in " test <- read.csv("https://
>  test <- read.csv("https://archive.ics.uci.edu/ml/mach
> View(test)
> View(test)
> #Now the data has been loaded, but it is raw so there'
> remove(test)
> wine_ds <- read.csv("https://archive.ics.uci.edu/ml/ma
> View(wine_ds)
> cn <- c("class", "alcohol", "malic_acid", "ash", "alca
+ "nonflavanoid_phenols","proanthocyanins", "color_inte
> cn
 [1] "class"               "alcohol"             "mali
 [5] "alcalinity_of_ash"   "magnesium"           "tota
 [9] "nonflavanoid_phenols" "proanthocyanins"     "colo
[13] "OD280_OD315"         "proline"
> colnames(wine_ds) <- cn
> View(wine_ds)
>
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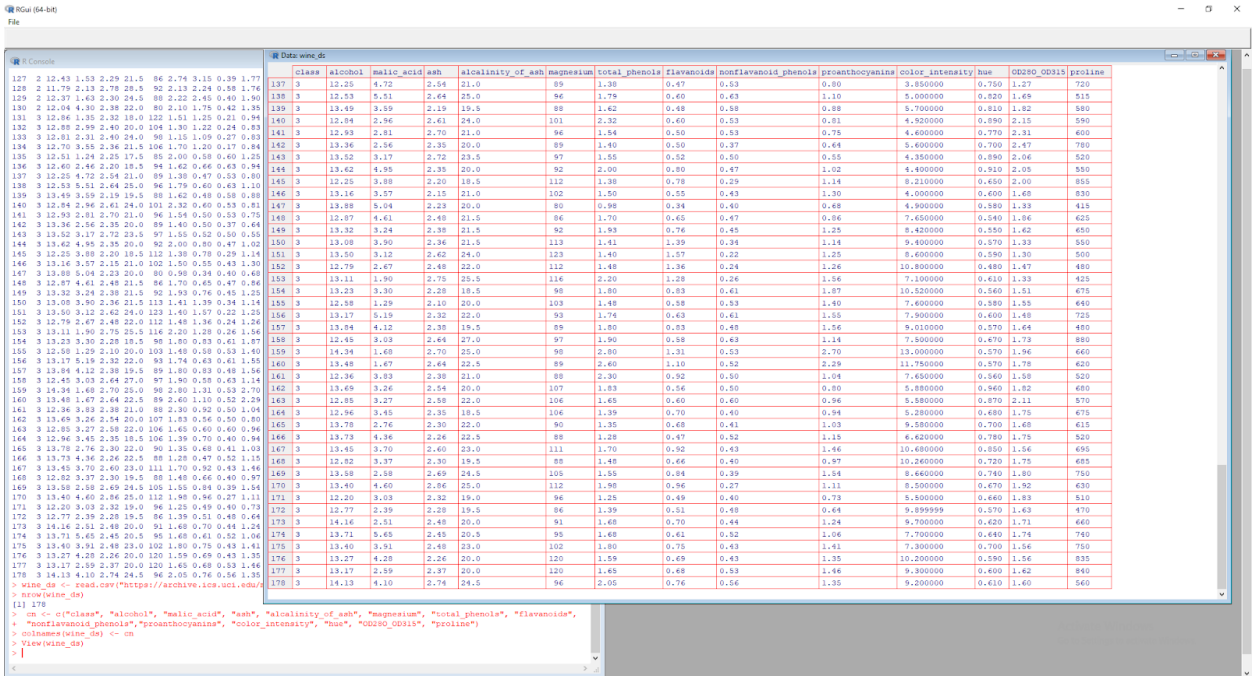
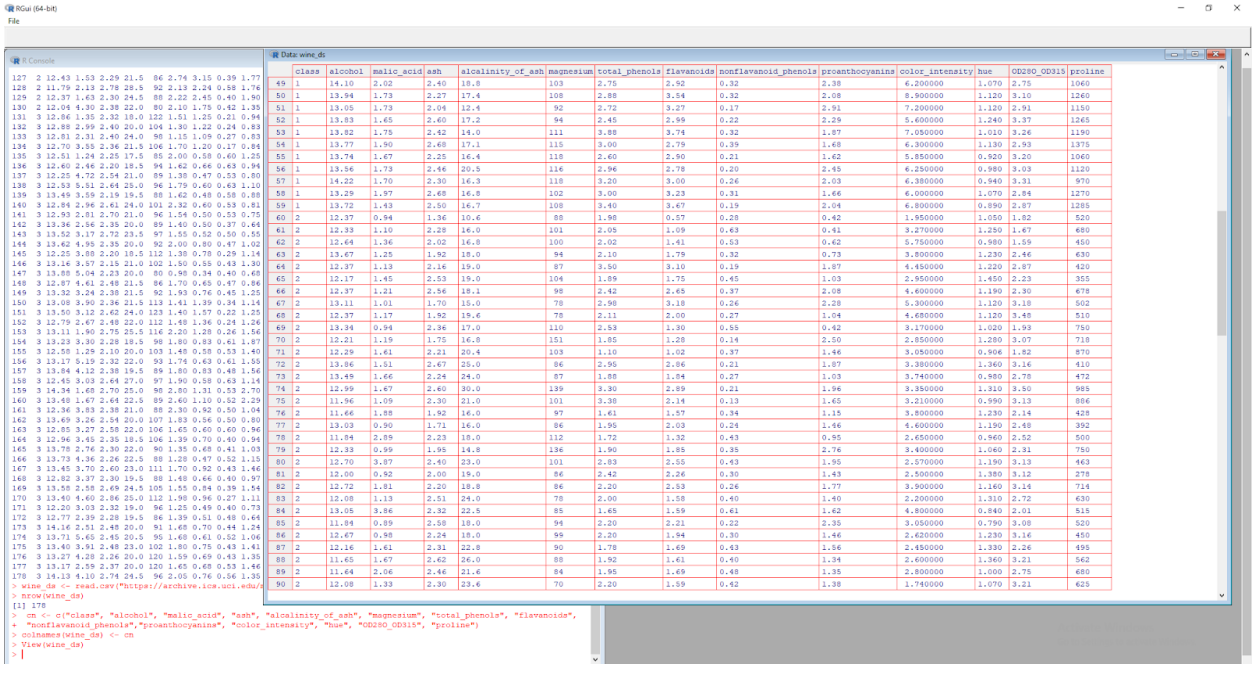
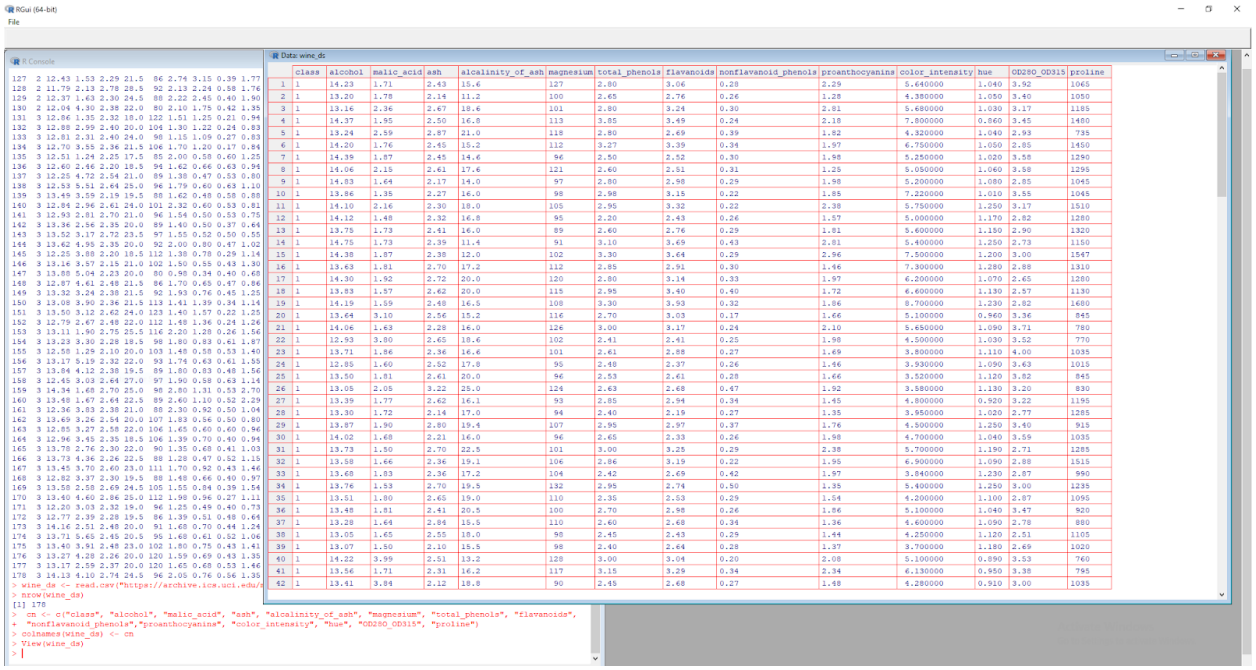
4th outputs: 14 total columns, 178 entries



	class	alcohol	malic_acid	ash	alcalinity_of_ash	magnesium	total_phenols	flavanoids	nonflavanoid_phenols	proanthocyanins	color_intensity	hue	OD280_OD315	proline
127	2	12.43	1.53	2.29	21.5	86	2.74	3.15	0.39	1.77				
128	2	11.79	2.13	2.78	28.5	92	2.13	2.24	0.58	1.76				
129	2	12.37	1.63	2.30	24.5	88	2.22	2.45	0.40	1.90				
130	2	12.04	4.30	2.38	22.0	80	2.10	1.75	0.42	1.35				
131	3	12.86	1.35	2.32	18.0	122	1.51	1.25	0.21	0.94				
132	3	12.88	2.99	2.40	20.0	104	1.30	1.22	0.24	0.83				
133	3	12.81	2.31	2.40	24.0	98	1.15	1.09	0.27	0.83				
134	3	12.70	3.55	2.36	21.5	106	1.70	1.20	0.17	0.84				
135	3	12.51	1.24	2.25	17.5	85	2.00	0.58	0.60	1.25				
136	3	12.60	2.46	2.20	18.5	94	1.62	0.66	0.63	0.94				
137	3	12.25	4.72	2.54	21.0	89	1.38	0.47	0.53	0.80	3.850000	0.750	1.27	720
138	3	12.53	5.51	2.64	25.0	96	1.79	0.60	0.63	1.10	5.000000	0.820	1.69	515
139	3	13.49	3.59	2.19	19.5	88	1.62	0.48	0.58	0.88	5.700000	0.810	1.82	580
140	3	12.84	2.96	2.61	24.0	101	2.32	0.60	0.53	0.81	4.920000	0.890	2.15	590
141	3	12.93	2.81	2.70	21.0	96	1.54	0.50	0.53	0.75	4.600000	0.770	2.31	600
142	3	13.36	2.56	2.35	20.0	89	1.40	0.50	0.37	0.64	5.600000	0.700	2.47	780
143	3	13.52	3.17	2.72	23.5	97	1.55	0.52	0.50	0.55	4.350000	0.890	2.06	520
144	3	13.62	4.95	2.35	20.0	92	2.00	0.80	0.47	1.02	4.400000	0.910	2.05	550
145	3	12.25	3.88	2.20	18.5	112	1.38	0.78	0.29	1.14	8.210000	0.650	2.00	855
146	3	13.16	3.57	2.15	21.0	102	1.50	0.55	0.43	1.30	4.000000	0.600	1.68	830
147	3	13.88	5.04	2.23	20.0	80	0.98	0.34	0.40	0.68	4.900000	0.580	1.33	415
148	3	12.87	4.61	2.48	21.5	86	1.70	0.65	0.47	0.86	7.650000	0.540	1.86	625
149	3	13.32	3.24	2.38	21.5	92	1.93	0.76	0.45	1.25	8.420000	0.550	1.62	650
150	3	13.08	3.90	2.36	21.5	113	1.41	1.39	0.34	1.14	9.400000	0.570	1.33	550
151	3	13.50	3.12	2.62	24.0	123	1.40	1.57	0.22	1.25	8.600000	0.590	1.30	500
152	3	12.79	2.67	2.48	22.0	112	1.48	1.36	0.24	1.26	10.800000	0.480	1.47	480
153	3	13.11	1.90	2.75	25.5	116	2.20	1.28	0.26	1.56	7.100000	0.610	1.33	425
154	3	13.23	3.30	2.28	18.5	98	1.80	0.83	0.61	1.87	10.520000	0.560	1.51	675
155	3	12.58	1.29	2.10	20.0	103	1.48	0.58	0.53	1.40	7.600000	0.580	1.55	640
156	3	13.17	5.19	2.32	22.0	93	1.74	0.63	0.61	1.55	7.900000	0.600	1.48	725
157	3	13.84	4.12	2.38	19.5	89	1.80	0.83	0.48	1.56	9.010000	0.570	1.64	480
158	3	12.45	3.03	2.64	27.0	97	1.90	0.58	0.63	1.14	7.500000	0.670	1.73	880
159	3	14.34	1.68	2.70	25.0	98	2.80	1.31	0.53	2.70	13.000000	0.570	1.96	660
160	3	13.48	1.67	2.64	22.5	89	2.60	1.10	0.52	2.29	11.750000	0.570	1.78	620
161	3	12.36	3.83	2.38	21.0	88	2.30	0.92	0.50	1.04	7.650000	0.560	1.58	520
162	3	13.69	3.26	2.54	20.0	107	1.83	0.56	0.50	0.80	5.880000	0.960	1.82	680
163	3	12.85	3.27	2.58	22.0	106	1.65	0.60	0.60	0.96	5.580000	0.870	2.11	570
164	3	12.96	3.45	2.35	18.5	106	1.39	0.70	0.40	0.94	5.280000	0.680	1.75	675
165	3	13.78	2.76	2.30	22.0	90	1.35	0.68	0.41	1.03	9.580000	0.700	1.68	615
166	3	13.73	4.36	2.26	22.5	88	1.28	0.47	0.52	1.15	6.620000	0.780	1.75	520
167	3	13.45	3.70	2.60	23.0	111	1.70	0.92	0.43	1.46	10.680000	0.850	1.56	695
168	3	12.82	3.37	2.30	19.5	88	1.48	0.66	0.40	0.97	10.260000	0.720	1.75	685
169	3	13.58	2.58	2.69	24.5	105	1.55	0.84	0.39	1.54	8.660000	0.740	1.80	750
170	3	13.40	4.60	2.86	25.0	112	1.98	0.96	0.27	1.11	8.500000	0.670	1.92	630
171	3	12.20	3.03	2.32	19.0	96	1.25	0.49	0.40	0.73	5.500000	0.660	1.83	510
172	3	12.77	2.39	2.28	19.5	86	1.39	0.51	0.48	0.64	9.899999	0.570	1.63	470
173	3	14.16	2.51	2.48	20.0	91	1.68	0.70	0.44	1.24	9.700000	0.620	1.71	660
174	3	13.71	5.65	2.45	20.5	95	1.68	0.61	0.52	1.06	7.700000	0.640	1.74	740
175	3	13.40	3.91	2.48	23.0	102	1.80	0.75	0.43	1.41	7.300000	0.700	1.56	750
176	3	13.27	4.28	2.26	20.0	120	1.59	0.69	0.43	1.35	10.200000	0.590	1.56	835
177	3	13.17	2.59	2.37	20.0	120	1.65	0.68	0.53	1.46	9.300000	0.600	1.62	840
178	3	14.13	4.10	2.74	24.5	96	2.05	0.76	0.56	1.35	9.200000	0.610	1.60	560



	class	alcohol	malic_acid	ash	alcalinity_of_ash	magnesium	total_phenols	flavanoids	nonflavanoid_phenols	proanthocyanins	color_intensity	hue	OD280_OD315	proline
127	2	12.43	1.53	2.29	21.5	86	2.74	3.15	0.39	1.77				
128	2	11.79	2.13	2.78	28.5	92	2.13	2.24	0.58	1.76				
129	2	12.37	1.63	2.30	24.5	88	2.22	2.45	0.40	1.90				
130	2	12.04	4.30	2.38	22.0	80	2.10	1.75	0.42	1.35				
131	3	12.86	1.35	2.32	18.0	122	1.51	1.25	0.21	0.94				
132	3	12.88	2.99	2.40	20.0	104	1.30	1.22	0.24	0.83				
133	3	12.81	2.31	2.40	24.0	98	1.15	1.09	0.27	0.83				
134	3	12.70	3.55	2.36	21.5	106	1.70	1.20	0.17	0.84				
135	3	12.51	1.24	2.25	17.5	85	2.00	0.58	0.60	1.25				
136	3	12.60	2.46	2.20	18.5	94	1.62	0.66	0.63	0.94				
137	3	12.25	4.72	2.54	21.0	89	1.38	0.47	0.53	0.80	3.850000	0.750	1.27	720
138	3	12.53	5.51	2.64	25.0	96	1.79	0.60	0.63	1.10	5.000000	0.820	1.69	515
139	3	13.49	3.59	2.19	19.5	88	1.62	0.48	0.58	0.88	5.700000	0.810	1.82	580
140	3	12.84	2.96	2.61	24.0	101	2.32	0.60	0.53	0.81	4.920000	0.890	2.15	590
141	3	12.93	2.81	2.70	21.0	96	1.54	0.50	0.53	0.75	4.600000	0.770	2.31	600
142	3	13.36	2.56	2.35	20.0	89	1.40	0.50	0.37	0.64	5.600000	0.700	2.47	780
143	3	13.52	3.17	2.72	23.5	97	1.55	0.52	0.50	0.55	4.350000	0.890	2.06	520
144	3	13.62	4.95	2.35	20.0	92	2.00	0.80	0.47	1.02	4.400000	0.910	2.05	550
145	3	12.25	3.88	2.20	18.5	112	1.38	0.78	0.29	1.14	8.210000	0.650	2.00	855
146	3	13.16	3.57	2.15	21.0	102	1.50	0.55	0.43	1.30	4.000000	0.600	1.68	830
147	3	13.88	5.04	2.23	20.0	80	0.98	0.34	0.40	0.68	4.900000	0.580	1.33	415
148	3	12.87	4.61	2.48	21.5	86	1.70	0.65	0.47	0.86	7.650000	0.540	1.86	625
149	3	13.32	3.24	2.38	21.5	92	1.93	0.76	0.45	1.25	8.420000	0.550	1.62	650
150	3	13.08	3.90	2.36	21.5	113	1.41	1.39	0.34	1.14	9.400000	0.570	1.33	550
151	3	13.50	3.12	2.62	24.0	123	1.40	1.57	0.22	1.25	8.600000	0.590	1.30	500
152	3	12.79	2.67	2.48	22.0	112	1.48	1.36	0.24	1.26	10.800000	0.480	1.47	480
153	3	13.11	1.90	2.75	25.5	116	2.20	1.28	0.26	1.56	7.100000	0.610	1.33	425
154	3	13.23	3.30	2.28	18.5	98	1.80	0.83	0.61	1.87	10.520000	0.560	1.51	675
155	3	12.58	1.29	2.10	20.0	103	1.48	0.58	0.53	1.40	7.600000	0.580	1.55	640
156	3	13.17	5.19	2.32	22.0	93	1.74	0.63	0.61	1.55	7.900000	0.600	1.48	725
157	3	13.84	4.12	2.38	19.5	89	1.80	0.83	0.48	1.56	9.010000	0.570	1.64	480
158	3	12.45	3.03	2.64	27.0	97	1.90	0.58	0.63	1.14	7.500000	0.670	1.73	880
159	3	14.34	1.68	2.70	25.0	98	2.80	1.31	0.53	2.70	13.000000	0.570	1.96	660
160	3	13.48	1.67	2.64	22.5	89	2.60	1.10	0.52	2.29	11.750000	0.570	1.78	620
161	3	12.36	3.83	2.38	21.0	88	2.30	0.92	0.50	1.04	7.650000	0.560	1.58	520
162	3	13.69	3.26	2.54	20.0	107	1.83	0.56	0.50	0.80	5.880000	0.960	1.82	680
163	3	12.85	3.27	2.58	22.0	106	1.65	0.60	0.60	0.96	5.580000	0.870	2.11	570
164	3	12.96	3.45	2.35	18.5	106	1.39	0.70	0.40	0.94	5.280000	0.680	1.75	675
165	3	13.78	2.76	2.30	22.0	90	1.35	0.68	0.41	1.03	9.580000	0.700	1.68	615
166	3	13.73	4.36	2.26	22.5	88	1.28	0.47	0.52	1.15	6.620000	0.780	1.75	520
167	3	13.45	3.70	2.60	23.0	111	1.70	0.92	0.43	1.46	10.680000	0.850	1.56	695
168	3	12.82	3.37	2.30	19.5	88	1.48	0.66	0.40	0.97	10.260000	0.720	1.75	685
169	3	13.58	2.58	2.69	24.5	105	1.55	0.84	0.39	1.54	8.660000	0.740	1.80	750
170	3	13.40	4.60	2.86	25.0	112	1.98	0.96	0.27	1.11	8.500000	0.670	1.92	630
171	3	12.20	3.03	2.32	19.0	96	1.25	0.49	0.40	0.73	5.500000	0.660	1.83	510
172	3	12.77	2.39	2.28	19.5	86	1.39	0.51	0.48	0.64	9.899999	0.570	1.63	470
173	3	14.16	2.51	2.48	20.0	91	1.68	0.70	0.44	1.24	9.700000	0.620	1.71	660
174	3	13.71	5.65	2.45	20.5	95	1.68	0.61	0.52	1.06	7.700000	0.640	1.74	740
175	3	13.40	3.91	2.48	23.0	102	1.80	0.75	0.43	1.41	7.300000	0.700	1.56	750
176	3	13.27	4.28	2.26	20.0	120	1.59	0.69	0.43	1.35	10.200000	0.590	1.56	835
177	3	13.17	2.59	2.37	20.0	120	1.65	0.68	0.53	1.46	9.300000	0.600	1.62	840
178	3	14.13	4.10	2.74	24.5	96	2.05	0.76	0.56	1.35	9.200000	0.610	1.60	560
49	1	14.10	2.02	2.40	18.8	103	2.75	2.92	0.32	2.38	6.200000	1.070	2.75	1060
50	1	13.94	1.73	2.27	17.4	108	2.88	3.54	0.32	2.08	8.900000	1.120	3.10	1260
51	1	13.05	1.73	2.04	12.4	92	2.72	3.27	0.17	2.91	7.200000	1.120	2.91	1150
52	1	13.83	1.65	2.60	17.2	94	2.45	2.99	0.22	2.29	5.600000	1.240	3.37	1265
53	1	13.82	1.75	2.42	14.0	111	3.88	3.74	0.32	1.87	7.050000	1.010	3.26	1190
54	1	13.77	1.90	2.68	17.1	115	3.00	2.79	0.39	1.68	6.300000	1.130	2.93	1375
55	1	13.74	1.67	2.25	16.4	118	2.60	2.90	0.21	1.62	5.850000	0.920	3.20	1060
56	1	13.56	1.73	2.46	20.5	116	2.96	2.78	0.20	2.45	6.250000	0.980	3.03	1120
57	1	14.22	1.70	2.30	16.3	118	3.20	3.00	0.26	2.03	6.380000	0.940	3.31	970
58	1	13.29	1.97	2.68	16.8	102	3.00	3.23	0.31	1.66	6.000000	1.070	2.84	1270
59	1	13.72	1.43	2.50	16.7	108	3.40	3.67	0.19	2.04	6.800000	0.890	2.87	1285
60	2	12.37	0.94	1.36	10.6	88	1.98	0.57	0.28	0.42	1.950000	1.050	1.82	520
61	2	12.33	1.10	2.28	16.0	101	2.05	1.09	0.63	0.41	3.270000	1.250	1.67	680
62	2	12.64	1.36	2.02	16.8	100	2.02	1.41	0.53	0.62	5.750000	0.980	1.59	450
63	2	13.67	1.25	1.92	18.0	94	2.10	1.79	0.32	0.73	3.800000	1.230	2.46	630
64	2	12.37	1.13	2.16	19.0	87	3.50	3.10	0.19	1.87	4.450000	1.220	2.87	420
65	2	12.17	1.45	2.53	19.0	104	1.89	1.75	0.45	1.03	2.950000	1.450	2.23	355
66	2	12.37	1.21	2.56	18.1	98	2.42	2.65	0.37	2.08	4.600000	1.190	2.30	678
67	2	13.11	1.01	1.70	15.0	78	2.98	3.18	0.26	2.28	5.300000	1.120	3.18	502
68	2	12.37	1.17	1.92	19.6	78	2.11	2.00	0.27	1.04	4.680000	1.120	3.48	510
69	2	13.34	0.94	2.36	17.0	110	2.53	1.30	0.55	0.42	3.170000	1.020	1.93	750
70	2	12.21	1.19	1.75	16.8	151	1.85	1.28	0.14	2.50	2.850000	1.280	3.07	718
71	2	12.29	1.61	2.21	20.4	103	1.10	1.02	0.37	1.46	3.050000	0.906	1.82	870
72	2	13.86	1.51	2.67	25.0	86	2.95	2.86	0.21	1.87	3.380000	1.360	3.16	410
73	2	13.49	1.66	2.24	24.0	87	1.88	1.84	0.27	1.03	3.740000	0.980	2.78	472
74	2	12.99	1.67	2.60	30.0	139	3.30	2.89	0.21	1.96	3.350000	1.310	3.50	985
75	2	11.96	1.09	2.30	21.0	101	3.38	2.14	0.13	1.65	3.210000	0.990	3.13	886
76	2	11.66	1.88	1.92	16.0	97	1.61	1.57	0.34	1.15	3.800000	1.230	2.14	428
77	2	13.03	0.90	1.71	16.0	86	1.95	2.03	0.24	1.46	4.600000	1.190	2.48	392
78	2	11.84	2.89	2.23	18.0	112	1.72	1.32	0.43	0.95	2.650000	0.960	2.52	500
79	2	12.33	0.99	1.95	14.8	136	1.90	1.85	0.35	2.76	3.400000	1.060	2.31	750
80	2	12.70	3.87	2.40	23.0	101	2.83	2.55	0.43	1.95	2.570000	1.190	3.13	463
81	2	12.00	0.92	2.00	19.0	86	2.42	2.26	0.30	1.43	2.500000	1.380	3.12	278
82	2	12.72	1.81	2.20	18.8	86	2.20	2.53	0.26	1.77	3.900000	1.160	3.14	714
83	2	12.08	1.13	2.51	24.0	78	2.00	1.58	0.40	1.40	2.200000	1.310	2.72	630
84	2	13.05	3.86	2.32	22.5	85	1.65	1.59	0.61	1.62	4.800000	0.840	2.01	515
85	2	11.84	0.89	2.58	18.0	94	2.20	2.21	0.22	2.35	3.050000	0.790	3.08	520
86	2	12.67	0.98	2.24	18.0	99	2.20	1.94	0.30	1.46	2.620000	1.230	3.16	450
87	2	12.16	1.61	2.31	22.8	90	1.78	1.69	0.43	1.56	2.450000	1.330	2.26	495
88	2	11.65	1.67	2.62	26.0	88	1.92	1.61	0.40	1.34	2.600000	1.360	3.21	562
89	2	11.64	2.06	2.46	21.6	84	1.95	1.69	0.48	1.35	2.800000	1.000	2.75	680
90	2	12.08	1.33	2.30	23.6	70	2.20	1.59	0.42	1.38	1.740000	1.070	3.21	625



	class	alcohol	malic_acid	ash	alcalinity_of_ash	magnesium	total_phenols	flavanoids	nonflavanoid_phenols	proanthocyanins	color_intensity	hue	OD280_OD315	proline
1	1	14.23	1.71	2.43	15.6	127	2.80	3.06	0.28	2.29	5.640000	1.040	3.92	1065
2	1	13.20	1.78	2.14	11.2	100	2.65	2.76	0.26	1.28	4.380000	1.050	3.40	1050
3	1	13.16	2.36	2.67	18.6	101	2.80	3.24	0.30	2.81	5.680000	1.030	3.17	1185
4	1	14.37	1.95	2.50	16.8	113	3.85	3.49	0.24	2.18	7.800000	0.860	3.45	1480
5	1	13.24	2.59	2.87	21.0	118	2.80	2.69	0.39	1.82	4.320000	1.040	2.93	735
6	1	14.20	1.76	2.45	15.2	112	3.27	3.39	0.34	1.97	6.750000	1.050	2.85	1450
7	1	14.39	1.87	2.45	14.6	96	2.50	2.52	0.30	1.98	5.250000	1.020	3.58	1290
8	1	14.06	2.15	2.61	17.6	121	2.60	2.51	0.31	1.25	5.050000	1.060	3.58	1295
9	1	14.83	1.64	2.17	14.0	97	2.80	2.98	0.29	1.98	5.200000	1.080	2.85	1045
10	1	13.86	1.35	2.27	16.0	98	2.98	3.15	0.22	1.85	7.220000	1.010	3.55	1045
11	1	14.10	2.16	2.30	18.0	105	2.95	3.32	0.22	2.38	5.750000	1.250	3.17	1510
12	1	14.12	1.48	2.32	16.8	95	2.20	2.43	0.26	1.57	5.000000	1.170	2.82	1280
13	1	13.75	1.73	2.41	16.0	89	2.60	2.76	0.29	1.81	5.600000	1.150	2.90	1320
14	1	14.75	1.73	2.39	11.4	91	3.10	3.69	0.43	2.81	5.400000	1.250	2.73	1150
15	1	14.38	1.87	2.38	12.0	102	3.30	3.64	0.29	2.96	7.500000	1.200	3.00	1547
16	1	13.63	1.81	2.70	17.2	112	2.85	2.91	0.30	1.46	7.300000	1.280	2.88	1310
17	1	14.30	1.92	2.72	20.0	120	2.80	3.14	0.33	1.97	6.200000	1.070	2.65	1280
18	1	13.83	1.57	2.62	20.0	115	2.95	3.40	0.40	1.72	6.600000	1.130	2.57	1130
19	1	14.19	1.59	2.48	16.5	108	3.30	3.93	0.32	1.86	8.700000	1.230	2.82	1680
20	1	13.64	3.10	2.56	15.2	116	2.70	3.03	0.17	1.66	5.100000	0.960	3.36	845
21	1	14.06	1.63	2.28	16.0	126	3.00	3.17	0.24	2.10	5.650000	1.090	3.71	780
22	1	12.93	3.80	2.65	18.6	102	2.41	2.41	0.25	1.98	4.500000	1.030	3.52	770
23	1	13.71	1.86	2.36	16.6	101	2.61	2.88	0.27	1.69	3.800000	1.110	4.00	1035
24	1	12.85	1.60	2.52	17.8	95	2.48	2.37	0.26	1.46	3.930000	1.090	3.63	1015
25	1	13.50	1.81	2.61	20.0	96	2.53	2.61	0.28	1.66	3.520000	1.120	3.82	845
26	1	13.05	2.05	3.22	25.0	124	2.63	2.68	0.47	1.92	3.580000	1.130	3.20	830
27	1	13.39	1.77	2.62	16.1	93	2.85	2.94	0.34	1.45	4.800000	0.920	3.22	1195
28	1	13.30	1.72	2.14	17.0	94	2.40	2.19	0.27	1.35	3.950000	1.020	2.77	1285
29	1	13.87	1.90	2.80	19.4	107	2.95	2.97	0.37	1.76	4.500000	1.250	3.40	915
30	1	14.02	1.68	2.21	16.0	96	2.65	2.33	0.26	1.98	4.700000	1.040	3.59	1035
31	1	13.73	1.50	2.70	22.5	101	3.00	3.25	0.29	2.38	5.700000	1.190	2.71	1285
32	1	13.58	1.66	2.36	19.1	106	2.86	3.19	0.22	1.95	6.900000	1.090	2.88	1515
33	1	13.68	1.83	2.36	17.2	104	2.42	2.69	0.42	1.97	3.840000	1.230	2.87	990
34	1	13.76	1.53	2.70	19.5	132	2.95	2.74	0.50	1.35	5.400000	1.250	3.00	1235
35	1	13.51	1.80	2.65	19.0	110	2.35	2.53	0.29	1.54	4.200000	1.100	2.87	1095
36	1	13.48	1.81	2.41	20.5	100	2.70	2.98	0.26	1.86	5.100000	1.040	3.47	920
37	1	13.28	1.64	2.84	15.5	110	2.60	2.68	0.34	1.36	4.600000	1.090	2.78	880
38	1	13.05	1.65	2.55	18.0	98	2.45	2.43	0.29	1.44	4.250000	1.120	2.51	1105
39	1	13.07	1.50	2.10	15.5	98	2.40	2.64	0.28	1.37	3.700000	1.180	2.69	1020
40	1	14.22	3.99	2.51	13.2	128	3.00	3.04	0.20	2.08	5.100000	0.890	3.53	760
41	1	13.56	1.71	2.31	16.2	117	3.15	3.29	0.34	2.34	6.130000	0.950	3.38	795
42	1	13.41	3.84	2.12	18.8	90	2.45	2.68	0.27	1.48	4.280000	0.910	3.00	1035

5th output: plot(wine_ds)