UNIVERSITI TEKNOLOGI MALAYSIA

PROBABILITY AND STATICTICAL DATA ANALYSIS

(SECI 2143)

SECTION 09

DR AZURAH AS

PROJECT 2: INFERENCE STATISTICAL ANALYSIS

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INTRODUCTION

In our project we had decided to do a research on cars or vehicle specification as people are always careless and not aware about this fact. The main reason on why this concept were chosen because, cars or vehicle specification are something that really significant and should be emphasize by people. In this context, we are going to do a study about miles per gallon (MPG) and model years of cars. First of all, car is a motor vehicle with four wheels that is used for transportation. Cars are typically defined as vehicles that drive largely on roadways, seat one to eight people, have four wheels, and primarily transport people rather than cargo, according to most definitions. Cars also have controls for driving, passenger comfort, and safety, which are often manipulated with a combination of feet and hands, and in certain cases, by voice in 21st-century cars. When German inventor Karl Benz patented his Benz Patent-Motorwagen in 1886, it is considered the birth year of the modern car. Years by years, the production of car are increasing due to high demand by people.

This study aims to investigate and do the data analysis on the average miles per gallon (MPG) and model years among cars that produce from a certain country such as Japan, United States and Europe by performing and finding inferential statistics using a few test such as hypothesis testing, correlation testing, regression testing and Chi-Square test of independence. This investigation purposely to determine the most common car's fuel efficiency and the relation between cars model and its origin.

DATASET

The data in this study is obtained from the collection of data set by *Project dataset* and being processed to a smaller sample. From the dataset, we had collected the data about average of cars' miles per gallon (MPG). The reason why we choose average or mean as our parameter is because mean is an essential for a dataset. It is because it will produce the least error in prediction of any value in the dataset and also increase the estimation accuracy.

254 data are selected from the dataset to be sampled for hypothesis testing to determine whether there is sufficient statistical proof to support the null hypothesis. The sample is normally distributed and plotted using Rstudio.

DATA ANALYSIS

I. *Hypothesis testing*

Based on the recent study "The 5 most fuel-efficient cars on the road today" by the Insider, it is claimed that the average car sold in the United States gets an average of around 25 miles per gallon (MPG). Hence the null hypothesis, H0 and alternative hypothesis, H1 is;

$H_0 : \mu = 25$

$H_1 : \mu \neq 25$

Where μ is mean or average of car's miles per gallon (MPG).

A random sample of 254 cars produce from United States having mean of 19.688 MPG. The standard deviation can be evaluate using this formula;

$$s_x = \sqrt{\frac{\sum(x_i - \bar{x})2}{n-1}}$$

The standard deviation is 6.92829.

A 0.05 significance level is used to test the claim of this study that the average or mean miles per gallon (MPG) of a car is 25 MPG. The critical value of 0.05 significance level is -1.959964 and 1.959964. the z-value of mean can be produced by using below formula;

$$z = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

the value of z is -12.21894

$\bar{x}$	μ	s	z-value	p-value	Critical value
19.68819	25	6.92829	-12.21894	0.00001	-1.959964 / 1.959964

Since the z-value falls within the critical region, the null hypothesis, H0 is rejected. There is enough evidence to suggest that the average miles per gallon (MPG) of a car has changed because we are able to accept the alternate hypothesis, H1 which says that the average miles per gallon (MPG) of a car is not equal to 25.

II. *Correlation*

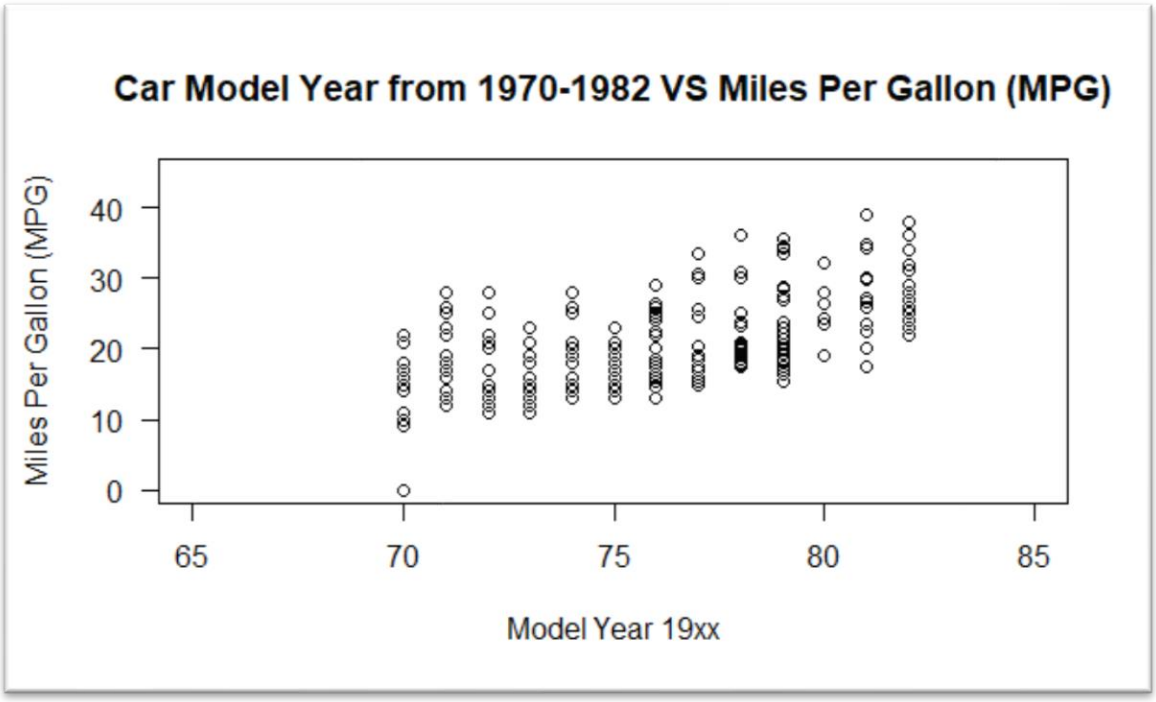


Figure 1 shows a scatterplot of Car Model Year from 1970-1982 VS Miles Per Gallon (MPG)

In the correlation test, we had analysed that the relationship or by means of the strength of association between is model year and MPG with a sample size of 254. The coefficient correlation, r is calculated in IBM SPSS to show the relation between both axes. The independent variable, x is the model year whereas the miles per gallon (MPG). These two variables are used to calculate the coefficient correlation using the formula below.

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

The correlation coefficient, r is equal to 0.658. Since r is positive, we can conclude that if the model year increase, the value of MPG will increase too. Since the scattered plot portrays a positive slope, they are both directly proportional.

Correlations

		MPG	Model
MPG	Pearson Correlation	1	.658**
	Sig. (2-tailed)		<.001
	N	254	254
Model	Pearson Correlation	.658**	1
	Sig. (2-tailed)	<.001	
	N	254	254

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

Figure 2

These values are tested whether are there any evidence to support that increase in model year will result in higher MPG at 0.01 level of significance. Assume, H_o is model year and MPG has no linear correlation.

H_o: M=0

H_1: M≠0

For this test, test statistics t, $t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$, where the sample size is n=254 and r=0.658 as stated in figure 2. After calculation, we found that test statistic t=13.87142. From t-table, the critical value is +2.575 to -2.575.

Figure 2

Test Statistic, t	α	Degree of Freedom, df	Critical Value
13.87142	0.01	252	+2.575, -2.575

Since +13.87142 > +2.575, we can conclude that we can reject H_o at α=0.01. Sufficient evidence exists to conclude that there is a linear relationship between model year and MPG at1% level of significance.

III. *Regression*

The independent variable (x) in this case is Model Years of Car whereas the dependent variable (y) is the MPG (miles per gallon). The analysis is to aim the existence of a linear relationship between the variable x and y.

```
> summary(model)

Call:
lm(formula = y ~ x)

Residuals:
     Min       1Q   Median       3Q      Max
-13.2448  -3.7914  -0.6202   3.5720  13.5730

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) -69.50940    6.50646  -10.68   <2e-16 ***
x             1.18220    0.08612   13.73   <2e-16 ***
---
Signif. codes:
0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 5.253 on 252 degrees of freedom
Multiple R-squared:  0.4279,    Adjusted R-squared:  0.4256
F-statistic: 188.5 on 1 and 252 DF,  p-value: < 2.2e-16
```

Figure 3 shows the calculation for regression

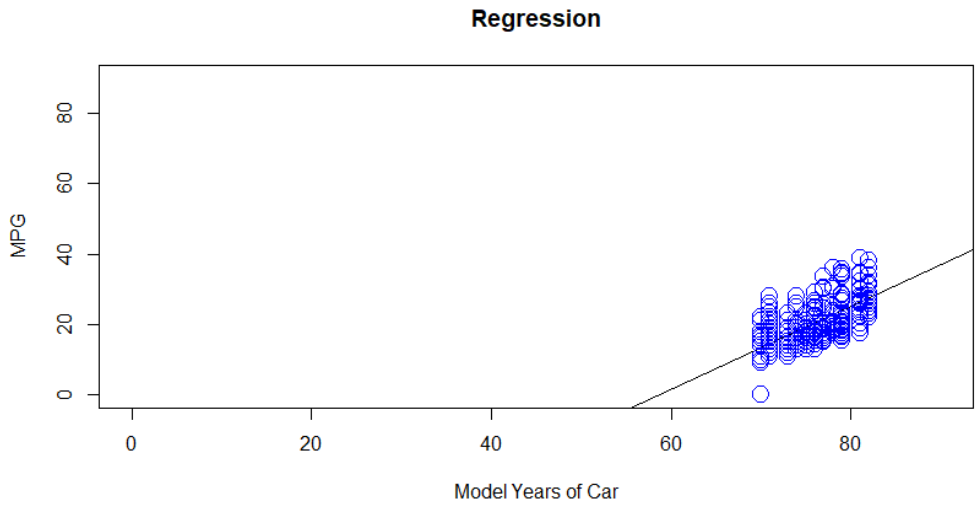


Figure 4 shows the linear regression graph of MPG against Model Years of Car

From the regression graph, this model has shown a positive linear relationship with an equation of $y = -69.50940 + 1.18220x$. The value of β0 of -69.50940 indicates the range of MPG (miles per gallon) on the Model Years of Car. The value of slope coefficient, β1 of +1.18220 just indicates the average value of MPG (miles per gallon) increases by 1.18220 on average, for each additional one Model Years of Car. The relationship between x and y is a positive linear relationship. The coefficient of determination, R^2, in this relationship is 0.4278634

and can be consider as a moderate relationship where not all of the variation in y is explained by variation in x.

IV. *Chi-square test for independence*

Chi-square is performed to test if the hypothesis that the observed proportions average for the year model of the cars from Japan, United States and Europe matches the claim that the proportions should be the same for all three of the origin. Using a 0.05 significance level, the observed values are compared with the corresponding expected values. Hence the null hypothesis, H0 and alternative hypothesis, H1 is;

H_0 : the proportions for the average model of the cars from Japan, United States and Europe are the same.
H_1 : at least one different from the proportions.

```
> #get contingency table
> tbl<- table(cars2$Model,cars2$Origin)
> tbl

    Europe Japan US
  70      6     2 27
  71      5     4 20
  72      5     5 18
  73      7     4 29
  74      6     6 15
  75      6     4 20
  76      8     4 22
  77      4     6 18
  78      6     8 22
  79      4     2 23
  80      9    13  7
  81      5    12 13
  82      2     9 20
> #create new table
> tbl2=cbind(tbl[, 'Europe']+tbl[, 'Japan'],tbl[,'US'])
> tbl2
   [,1] [,2]
70    8   27
71    9   20
72   10   18
73   11   29
74   12   15
75   10   20
76   12   22
77   10   18
78   14   22
79    6   23
80   22    7
81   17   13
82   11   20
> #perform chi-square test on the data table
> chisq.test(tbl2, correct = FALSE)

        Pearson's Chi-squared test

data:  tbl2
X-squared = 32.863, df = 12, p-value = 0.001017

> #critical value
> alpha<-0.05
> x2.alpha<- qchisq(alpha, df=12, lower.tail = FALSE)
> x2.alpha
[1] 21.02607
>
```

Figure 2 calculation for the chi-square test obtained from Rstudio

The observed value and expected value are as shown as figure 1 above. The test statistic, chi-square value is then calculated using Rstudio which equals to **32.863**. the critical value can be found based on the chi-square distribution with degrees of freedom equal to 12 and the significance level **0.05**. Hence, the critical value based on the calculation in Rstudio is **21.02607**. The p-value is obtained to be approximately **0.001017**.

Significance value, α	Critical value, $\chi^2_{0.05,12}$	Chi-square, χ^2	p-value
0.05	21.02607	32.863	0.001017

Since the p-value (0.001017) is smaller than the significance level (0.05) , therefore the null hypothesis, H0 is rejected. There is insufficient evidence that the proportion for the average model of the cars from Japan, United States and Europe are the same.

CONCLUSION

Throughout our involvement in this project, we gained a lot of experience and knowledge about data analysis. We also take this opportunity to apply all the skills that we learned about RStudio to do the calculation for the hypothesis testing, correlation, regression and Chi-Square test for independence which will help us in the future. Besides, we are also able to do the data processing and analysis successfully.

As for the result of our project, we found that the average of miles per gallon of a car is almost 20 MPG and we believe that this value will increase as the technology developing. In correlation analysis, the graph showed positive relation. The value of MPG increases as the model year of car increases. The regression showed the positive relation between MPG (miles per gallon) the Model Years of car which indicates that the MPG of a car and its model year are interrelated. The 254 selected data shows that when the model year of a car is higher, its average MPG is higher too. It shows that the fuel efficiency of a higher Model Year car is higher.

Last but not least, we would like to appreciate and thank our lecturer Dr. Azurah Abu Samah for all her efforts and hard work for teaching and guiding us in this course throughout this semester and also the students of SECI2143-Section 09. Without them we might be unable to complete this project or even to understand all this knowledge.

APPENDIX

Below are the screenshot of our raw dataset “cars”;

	Car	MPG	Cylinders	Displacer	Horsepov	Weight	Accelera	Model	Origin
2	Citroen D	0	4	133	115	3090	17.5	70	Europe
3	Volksw ag	26	4	97	46	1835	20.5	70	Europe
4	Peugeot	25	4	110	87	2672	17.5	70	Europe
5	Audi 100	24	4	107	90	2430	14.5	70	Europe
6	Saab 99e	25	4	104	95	2375	17.5	70	Europe
7	BMW 200	26	4	121	113	2234	12.5	70	Europe
8	Volksw ag	0	4	97	48	1978	20	71	Europe
9	Opel 190	28	4	116	90	2123	14	71	Europe
10	Peugeot	30	4	79	70	2074	19.5	71	Europe
11	Fiat 124B	30	4	88	76	2065	14.5	71	Europe
12	Volksw ag	27	4	97	60	1834	19	71	Europe
13	Volksw ag	23	4	97	54	2254	23.5	72	Europe
14	Volvo 145	18	4	121	112	2933	14.5	72	Europe
15	Volksw ag	22	4	121	76	2511	18	72	Europe
16	Peugeot	21	4	120	87	2979	19.5	72	Europe
17	Renault 1	26	4	96	69	2189	18	72	Europe
18	Volksw ag	26	4	97	46	1950	21	73	Europe
19	Fiat 124 S	26	4	98	90	2265	15.5	73	Europe
20	Fiat 128	29	4	68	49	1867	19.5	73	Europe
21	Opel Man	24	4	116	75	2158	15.5	73	Europe
22	Audi 100L	20	4	114	91	2582	14	73	Europe
23	Volvo 144	19	4	121	112	2868	15.5	73	Europe
24	Saab 99l	24	4	121	110	2660	14	73	Europe
25	Audi Fox	29	4	98	83	2219	16.5	74	Europe
26	Volksw ag	26	4	79	67	1963	15.5	74	Europe
27	Opel Man	26	4	97	78	2300	14.5	74	Europe
28	Fiat 128	24	4	90	75	2108	15.5	74	Europe
29	Fiat 124 T	26	4	116	75	2246	14	74	Europe
30	Fiat x1.9	31	4	79	67	2000	16	74	Europe
31	Volksw ag	25	4	90	71	2223	16.5	75	Europe
32	Volksw ag	29	4	90	70	1937	14	75	Europe
33	Audi 100L	23	4	115	95	2694	15	75	Europe
34	Peugeot	23	4	120	88	2957	17	75	Europe
35	Volvo 244	22	4	121	98	2945	14.5	75	Europe
36	Saab 99L	25	4	121	115	2671	13.5	75	Europe
37	Fiat 131	28	4	107	86	2464	15.5	76	Europe
38	Opel 190	25	4	116	81	2220	16.9	76	Europe
39	Renault 1	27	4	101	83	2202	15.3	76	Europe
40	Volksw ag	29	4	90	70	1937	14.2	76	Europe
41	Volksw ag	29.5	4	97	71	1825	12.2	76	Europe
42	Volvo 245	20	4	130	102	3150	15.7	76	Europe
43	Peugeot	19	4	120	88	3270	21.9	76	Europe
44	Mercede	16.5	6	168	120	3820	16.7	76	Europe
45	Renault 5	36	4	79	58	1825	18.6	77	Europe
46	Volksw ac	29	4	97	78	1940	14.5	77	Europe

47	Volksw ag	30.5	4	97	78	2190	14.1	77	Europe
48	BMW 320	21.5	4	121	110	2600	12.8	77	Europe
49	Volksw ag	43.1	4	90	48	1985	21.5	78	Europe
50	Audi 500	20.3	5	131	103	2830	15.9	78	Europe
51	Volvo 26	17	6	163	125	3140	13.6	78	Europe
52	Saab 99	21.6	4	121	115	2795	15.7	78	Europe
53	Peugeot	16.2	6	163	133	3410	15.8	78	Europe
54	Volksw ag	31.5	4	89	71	1990	14.9	78	Europe
55	Volksw ag	31.9	4	89	71	1925	14	79	Europe
56	Mercede	25.4	5	183	77	3530	20.1	79	Europe
57	Peugeot	27.2	4	141	71	3190	24.8	79	Europe
58	Fiat Strac	37.3	4	91	69	2130	14.7	79	Europe
59	Volksw ag	41.5	4	98	76	2144	14.7	80	Europe
60	Audi 400	34.3	4	97	78	2188	15.8	80	Europe
61	Volksw ag	44.3	4	90	48	2085	21.7	80	Europe
62	Volksw ag	43.4	4	90	48	2335	23.7	80	Europe
63	Audi 500	36.4	5	121	67	2950	19.9	80	Europe
64	Mercede	30	4	146	67	3250	21.8	80	Europe
65	Renault L	40.9	4	85	0	1835	17.3	80	Europe
66	Volksw ag	29.8	4	89	62	1845	15.3	80	Europe
67	Triumph	35	4	122	88	2500	15.1	80	Europe
68	Volksw ag	33	4	105	74	2190	14.2	81	Europe
69	Renault 1	34.5	4	100	0	2320	15.8	81	Europe
70	Peugeot	28.1	4	141	80	3230	20.4	81	Europe
71	Saab 90	0	4	121	110	2800	15.4	81	Europe
72	Volvo Die	30.7	6	145	76	3160	19.6	81	Europe
73	Volksw ag	36	4	105	74	1980	15.3	82	Europe
74	Volksw ag	44	4	97	52	2130	24.6	82	Europe
75	Toyota C	24	4	113	95	2372	15	70	Japan
76	Datsun P	27	4	97	88	2130	14.5	70	Japan
77	Datsun P	27	4	97	88	2130	14.5	71	Japan
78	Toyota C	25	4	113	95	2228	14	71	Japan
79	Toyota C	31	4	71	65	1773	19	71	Japan
80	Datsun 1	35	4	72	69	1613	18	71	Japan
81	Toyota C	24	4	113	95	2278	15.5	72	Japan
82	Mazda R	19	3	70	97	2330	13.5	72	Japan
83	Datsun 5	28	4	97	92	2288	17	72	Japan
84	Toyota C	23	4	120	97	2506	14.5	72	Japan
85	Toyota C	27	4	97	88	2100	16.5	72	Japan
86	Toyota C	20	4	97	88	2279	19	73	Japan
87	Datsun 6	22	4	108	94	2379	16.5	73	Japan
88	Mazda R	18	3	70	90	2124	13.5	73	Japan
89	Toyota M	20	6	156	122	2807	13.5	73	Japan
90	Datsun B	31	4	79	67	1950	19	74	Japan
91	Toyota C	32	4	71	65	1836	21	74	Japan
92	Toyota C	31	4	76	52	1649	16.5	74	Japan

92	Toyota C	31	4	76	52	1649	16.5	74	Japan
93	Datsun 7	32	4	83	61	2003	19	74	Japan
94	Honda Ci	24	4	120	97	2489	15	74	Japan
95	Subaru	26	4	108	93	2391	15.5	74	Japan
96	Toyota C	29	4	97	75	2171	16	75	Japan
97	Toyota C	24	4	134	96	2702	13.5	75	Japan
98	Datsun 7	24	4	119	97	2545	17	75	Japan
99	Honda Ci	33	4	91	53	1795	17.5	75	Japan
100	Honda Ci	33	4	91	53	1795	17.4	76	Japan
101	Datsun B	32	4	85	70	1990	17	76	Japan
102	Toyota C	28	4	97	75	2155	16.4	76	Japan
103	Toyota M	19	6	156	108	2930	15.5	76	Japan
104	Honda A	31.5	4	98	68	2045	18.5	77	Japan
105	Datsun F	33.5	4	85	70	1945	16.8	77	Japan
106	Toyota C	26	4	97	75	2265	18.2	77	Japan
107	Subaru D	30	4	97	67	1985	16.4	77	Japan
108	Datsun 8	22	6	146	97	2815	14.5	77	Japan
109	Mazda R	21.5	3	80	110	2720	13.5	77	Japan
110	Mazda G	32.8	4	78	52	1985	19.4	78	Japan
111	Datsun B	39.4	4	85	70	2070	18.6	78	Japan
112	Honda Ci	36.1	4	91	60	1800	16.4	78	Japan
113	Toyota C	27.5	4	134	95	2560	14.2	78	Japan
114	Datsun 5	27.2	4	119	97	2300	14.7	78	Japan
115	Toyota C	21.1	4	134	95	2515	14.8	78	Japan
116	Datsun 2	23.9	4	119	97	2405	14.9	78	Japan
117	Honda A	29.5	4	98	68	2135	16.6	78	Japan
118	Mazda G	34.1	4	86	65	1975	15.2	79	Japan
119	Datsun 2	31.8	4	85	65	2020	19.2	79	Japan
120	Toyota C	38.1	4	89	60	1968	18.8	80	Japan
121	Datsun 3	37.2	4	86	65	2019	16.4	80	Japan
122	Toyota C	29.8	4	134	90	2711	15.5	80	Japan
123	Mazda 6	31.3	4	120	75	2542	17.5	80	Japan
124	Datsun 5	37	4	119	92	2434	15	80	Japan
125	Toyota C	32.2	4	108	75	2265	15.2	80	Japan
126	Mazda G	46.6	4	86	65	2110	17.9	80	Japan
127	Datsun 2	40.8	4	85	65	2110	19.2	80	Japan
128	Honda Ci	44.6	4	91	67	1850	13.8	80	Japan
129	Subaru D	33.8	4	97	67	2145	18	80	Japan
130	Datsun 2	32.7	6	168	132	2910	11.4	80	Japan
131	Mazda R	23.7	3	70	100	2420	12.5	80	Japan
132	Honda A	32.4	4	107	72	2290	17	80	Japan
133	Toyota S	39.1	4	79	58	1755	16.9	81	Japan
134	Honda Ci	35.1	4	81	60	1760	16.1	81	Japan
135	Subaru	32.3	4	97	67	2065	17.8	81	Japan
136	Datsun 2	37	4	85	65	1975	19.4	81	Japan
137	Toyota T	37.7	4	89	62	2050	17.3	81	Japan

	A	B	C	D	E	F	G	H	I
138	Mazda G	34.1	4	91	68	1985	16	81	Japan
139	Honda Pi	33.7	4	107	75	2210	14.4	81	Japan
140	Toyota C	32.4	4	108	75	2350	16.8	81	Japan
141	Datsun 2	32.9	4	119	100	2615	14.8	81	Japan
142	Mazda 62	31.6	4	120	74	2635	18.3	81	Japan
143	Toyota C	25.4	6	168	116	2900	12.6	81	Japan
144	Datsun 8	24.2	6	146	120	2930	13.8	81	Japan
145	Mazda G	37	4	91	68	2025	18.2	82	Japan
146	Mazda G	31	4	91	68	1970	17.6	82	Japan
147	Nissan St	36	4	120	88	2160	14.5	82	Japan
148	Honda Ac	36	4	107	75	2205	14.5	82	Japan
149	Toyota C	34	4	108	70	2245	16.9	82	Japan
150	Honda Ci	38	4	91	67	1965	15	82	Japan
151	Honda Ci	32	4	91	67	1965	15.7	82	Japan
152	Datsun 3	38	4	91	67	1995	16.2	82	Japan
153	Toyota C	32	4	144	96	2665	13.9	82	Japan
154	Chevrole	18	8	307	130	3504	12	70	US
155	Buick Sky	15	8	350	165	3693	11.5	70	US
156	Plymouth	18	8	318	150	3436	11	70	US
157	AMC Reb	16	8	304	150	3433	12	70	US
158	Ford Tori	17	8	302	140	3449	10.5	70	US
159	Ford Gal	15	8	429	198	4341	10	70	US
160	Chevrole	14	8	454	220	4354	9	70	US
161	Plymouth	14	8	440	215	4312	8.5	70	US
162	Pontiac (	14	8	455	225	4425	10	70	US
163	AMC Amb	15	8	390	190	3850	8.5	70	US
164	Chevrole	0	8	350	165	4142	11.5	70	US
165	Ford Tori	0	8	351	153	4034	11	70	US
166	Plymouth	0	8	383	175	4166	10.5	70	US
167	AMC Reb	0	8	360	175	3850	11	70	US
168	Dodge Ch	15	8	383	170	3563	10	70	US
169	Plymouth	14	8	340	160	3609	8	70	US
170	Ford Mus	0	8	302	140	3353	8	70	US
171	Chevrole	15	8	400	150	3761	9.5	70	US
172	Buick Est	14	8	455	225	3086	10	70	US
173	Plymouth	22	6	198	95	2833	15.5	70	US
174	AMC Hor	18	6	199	97	2774	15.5	70	US
175	Ford Mav	21	6	200	85	2587	16	70	US
176	AMC Gre	21	6	199	90	2648	15	70	US
177	Ford F25	10	8	360	215	4615	14	70	US
178	Chevy C2	10	8	307	200	4376	15	70	US
179	Dodge D2	11	8	318	210	4382	13.5	70	US
180	Hi 1200D	9	8	304	193	4732	18.5	70	US
181	Chevrole	28	4	140	90	2264	15.5	71	US
182	Ford Pint	25	4	98	0	2046	19	71	US
183	AMC Gre	19	6	232	100	2634	13	71	US

	A	B	C	D	E	F	G	H	I
184	Plymouth	16	6	225	105	3439	15.5	71	US
185	Chevrole	17	6	250	100	3329	15.5	71	US
186	Ford Tori	19	6	250	88	3302	15.5	71	US
187	AMC Mat	18	6	232	100	3288	15.5	71	US
188	Chevrole	14	8	350	165	4209	12	71	US
189	Pontiac (	14	8	400	175	4464	11.5	71	US
190	Ford Gal	14	8	351	153	4154	13.5	71	US
191	Plymouth	14	8	318	150	4096	13	71	US
192	Dodge M	12	8	383	180	4955	11.5	71	US
193	Ford Cou	13	8	400	170	4746	12	71	US
194	Pontiac S	13	8	400	175	5140	12	71	US
195	AMC Hor	18	6	258	110	2962	13.5	71	US
196	Chevrole	22	4	140	72	2408	19	71	US
197	Pontiac F	19	6	250	100	3282	15	71	US
198	Ford Mus	18	6	250	88	3139	14.5	71	US
199	Mercury (	23	4	122	86	2220	14	71	US
200	Plymouth	26	4	91	70	1955	20.5	71	US
201	Dodge C	25	4	97.5	80	2126	17	72	US
202	Chevrole	20	4	140	90	2408	19.5	72	US
203	Ford Pint	21	4	122	86	2226	16.5	72	US
204	Chevrole	13	8	350	165	4274	12	72	US
205	Pontiac (	14	8	400	175	4385	12	72	US
206	Plymouth	15	8	318	150	4135	13.5	72	US
207	Ford Gal	14	8	351	153	4129	13	72	US
208	AMC Amb	17	8	304	150	3672	11.5	72	US
209	Mercury I	11	8	429	208	4633	11	72	US
210	Buick Le	13	8	350	155	4502	13.5	72	US
211	Oldsmob	12	8	350	160	4456	13.5	72	US
212	Chrysler I	13	8	400	190	4422	12.5	72	US
213	AMC Mat	15	8	304	150	3892	12.5	72	US
214	Chevrole	13	8	307	130	4098	14	72	US
215	Ford Gra	13	8	302	140	4294	16	72	US
216	Plymouth	14	8	318	150	4077	14	72	US
217	Ford Pint	22	4	122	86	2395	16	72	US
218	Dodge C	28	4	98	80	2164	15	72	US
219	Buick Ce	13	8	350	175	4100	13	73	US
220	AMC Mat	14	8	304	150	3672	11.5	73	US
221	Chevrole	13	8	350	145	3988	13	73	US
222	Ford Gra	14	8	302	137	4042	14.5	73	US
223	Dodge C	15	8	318	150	3777	12.5	73	US
224	Mercury I	12	8	429	198	4952	11.5	73	US
225	Chevrole	13	8	400	150	4464	12	73	US
226	Ford LTD	13	8	351	158	4363	13	73	US
227	Plymouth	14	8	318	150	4237	14.5	73	US
228	Chrysler I	13	8	440	215	4735	11	73	US
229	Buick Ele	12	8	455	225	4951	11	73	US

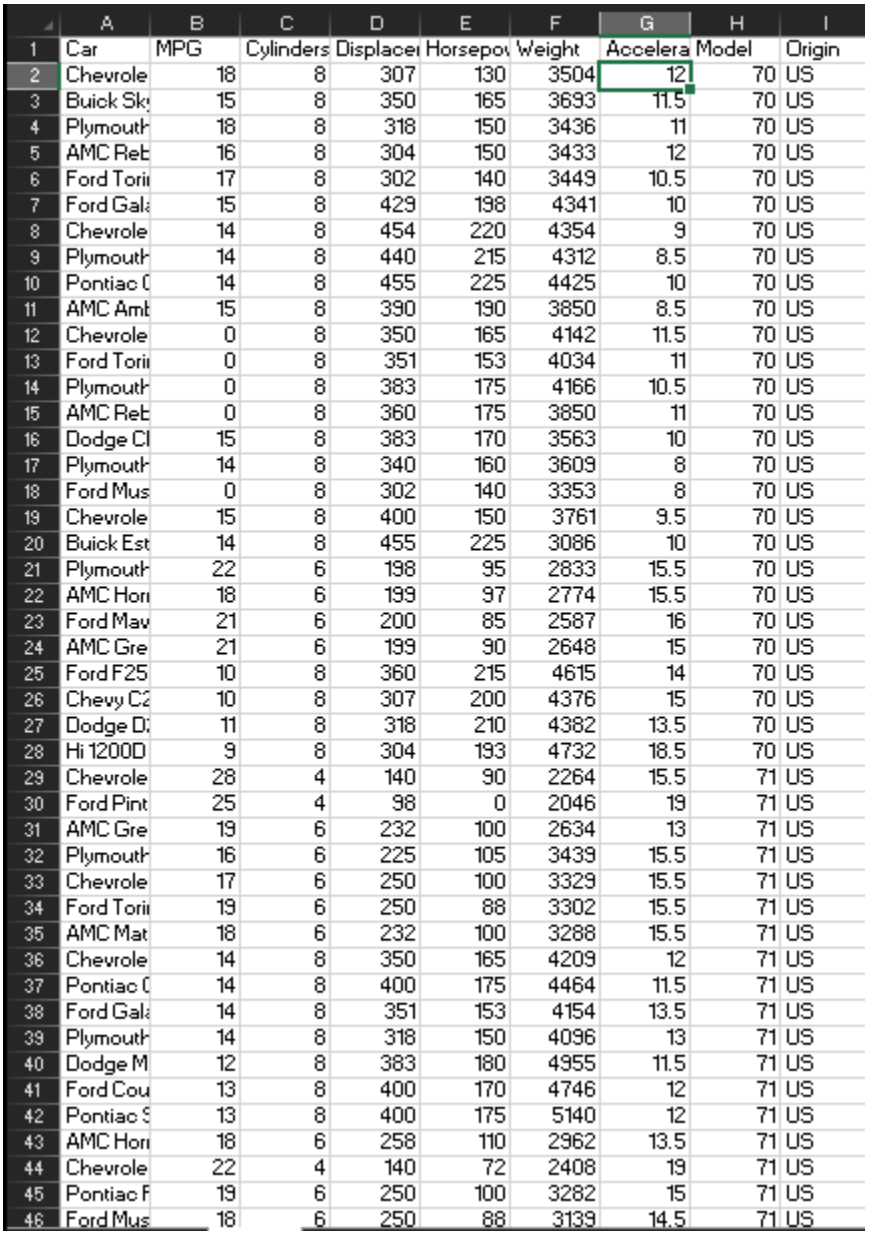
	A	B	C	D	E	F	G	H	I
230	AMC Amb	13	8	360	175	3821	11	73	US
231	Plymouth	18	6	225	105	3121	16.5	73	US
232	Chevrole	16	6	250	100	3278	18	73	US
233	AMC Hori	18	6	232	100	2945	16	73	US
234	Ford Mav	18	6	250	88	3021	16.5	73	US
235	Plymouth	23	6	198	95	2904	16	73	US
236	Chevrole	11	8	400	150	4997	14	73	US
237	Ford Cou	12	8	400	167	4906	12.5	73	US
238	Plymouth	13	8	360	170	4654	13	73	US
239	Oldsmob	12	8	350	180	4499	12.5	73	US
240	AMC Gre	18	6	232	100	2789	15	73	US
241	Chevrole	21	4	140	72	2401	19.5	73	US
242	Ford Pint	19	4	122	85	2310	18.5	73	US
243	Mercury (	21	6	155	107	2472	14	73	US
244	Chevrole	15	8	350	145	4082	13	73	US
245	Pontiac (	16	8	400	230	4278	9.5	73	US
246	Dodge D.	15	8	318	150	3399	11	73	US
247	Oldsmob	11	8	350	180	3664	11	73	US
248	Plymouth	20	6	198	95	3102	16.5	74	US
249	Ford Mav	21	6	200	0	2875	17	74	US
250	AMC Hori	19	6	232	100	2901	16	74	US
251	Chevrole	15	6	250	100	3336	17	74	US
252	Ford Pint	26	4	122	80	2451	16.5	74	US
253	Chevrole	25	4	140	75	2542	17	74	US
254	Chevrole	16	6	250	100	3781	17	74	US
255	AMC Mat	16	6	258	110	3632	18	74	US
256	Plymouth	18	6	225	105	3613	16.5	74	US
257	Ford Gra	16	8	302	140	4141	14	74	US
258	Buick Ce	13	8	350	150	4699	14.5	74	US
259	Dodge C	14	8	318	150	4457	13.5	74	US
260	Ford Gra	14	8	302	140	4638	16	74	US
261	AMC Mat	14	8	304	150	4257	15.5	74	US
262	Dodge C	28	4	90	75	2125	14.5	74	US
263	Plymouth	19	6	225	95	3264	16	75	US
264	Chevrole	18	6	250	105	3459	16	75	US
265	Mercury I	15	6	250	72	3432	21	75	US
266	Ford Mav	15	6	250	72	3158	19.5	75	US
267	Pontiac (	16	8	400	170	4668	11.5	75	US
268	Chevrole	15	8	350	145	4440	14	75	US
269	Plymouth	16	8	318	150	4498	14.5	75	US
270	Ford LTD	14	8	351	148	4657	13.5	75	US
271	Buick Ce	17	6	231	110	3907	21	75	US
272	Chevrole	16	6	250	105	3897	18.5	75	US
273	AMC Mat	15	6	258	110	3730	19	75	US
274	Plymouth	18	6	225	95	3785	19	75	US
275	Buick Sk	21	6	231	110	3039	15	75	US

	A	B	C	D	E	F	G	H	I
276	Chevrole	20	8	262	110	3221	13.5	75	US
277	Ford Mus	13	8	302	129	3169	12	75	US
278	Ford Pint	23	4	140	83	2639	17	75	US
279	AMC Gre	20	6	232	100	2914	16	75	US
280	Pontiac A	23	4	140	78	2592	18.5	75	US
281	Ford Pint	18	6	171	97	2984	14.5	75	US
282	AMC Pac	19	6	232	90	3211	17	75	US
283	Capri ii	25	4	140	92	2572	14.9	76	US
284	Dodge C	26	4	98	79	2255	17.7	76	US
285	Chevrole	17.5	8	305	140	4215	13	76	US
286	Dodge C	16	8	318	150	4190	13	76	US
287	AMC Mat	15.5	8	304	120	3962	13.9	76	US
288	Ford Gra	14.5	8	351	152	4215	12.8	76	US
289	Plymouth	22	6	225	100	3233	15.4	76	US
290	Chevrole	22	6	250	105	3353	14.5	76	US
291	Ford Mav	24	6	200	81	3012	17.6	76	US
292	AMC Hor	22.5	6	232	90	3085	17.6	76	US
293	Chevrole	29	4	85	52	2035	22.2	76	US
294	Chevrole	24.5	4	98	60	2164	22.1	76	US
295	Dodge A	20	6	225	100	3651	17.7	76	US
296	Ford Gre	18	6	250	78	3574	21	76	US
297	Pontiac V	18.5	6	250	110	3645	16.2	76	US
298	AMC Pac	17.5	6	258	95	3193	17.8	76	US
299	Ford Pint	26.5	4	140	72	2565	13.6	76	US
300	Plymouth	13	8	318	150	3940	13.2	76	US
301	Cadillac	16.5	8	350	180	4380	12.1	76	US
302	Chevrole	13	8	350	145	4055	12	76	US
303	Ford F10	13	8	302	130	3870	15	76	US
304	Dodge D	13	8	318	150	3755	14	76	US
305	Buick Op	30	4	111	80	2155	14.8	77	US
306	Plymouth	25.5	4	122	96	2300	15.5	77	US
307	Chevrole	17.5	8	305	145	3880	12.5	77	US
308	Oldsmob	17	8	260	110	4060	19	77	US
309	Dodge M	15.5	8	318	145	4140	13.7	77	US
310	Mercury	15	8	302	130	4295	14.9	77	US
311	Chevrole	17.5	6	250	110	3520	16.4	77	US
312	Buick Sk	20.5	6	231	105	3425	16.9	77	US
313	Plymouth	19	6	225	100	3630	17.7	77	US
314	Ford Gre	18.5	6	250	98	3525	19	77	US
315	Pontiac	16	8	400	180	4220	11.1	77	US
316	Chevrole	15.5	8	350	170	4165	11.4	77	US
317	Chrysler	15.5	8	400	190	4325	12.2	77	US
318	Ford Thu	16	8	351	149	4335	14.5	77	US
319	Pontiac S	24.5	4	151	88	2740	16	77	US
320	Ford Mus	25.5	4	140	89	2755	15.8	77	US
321	Chevrole	30.5	4	98	63	2051	17	77	US

	A	B	C	D	E	F	G	H	I
322	Dodge C	33.5	4	98	83	2075	15.9	77	US
323	Ford Fies	36.1	4	98	66	1800	14.4	78	US
324	Oldsmob	19.9	8	260	110	3365	15.5	78	US
325	Dodge Di	19.4	8	318	140	3735	13.2	78	US
326	Mercury I	20.2	8	302	139	3570	12.8	78	US
327	Pontiac F	19.2	6	231	105	3535	19.2	78	US
328	Chevrole	20.5	6	200	95	3155	18.2	78	US
329	Ford Fairı	20.2	6	200	85	2965	15.8	78	US
330	Ford Fairı	25.1	4	140	88	2720	15.4	78	US
331	Plymouth	20.5	6	225	100	3430	17.2	78	US
332	AMC Cor	19.4	6	232	90	3210	17.2	78	US
333	Buick Ce	20.6	6	231	105	3380	15.8	78	US
334	Mercury A	20.8	6	200	85	3070	16.7	78	US
335	Dodge A:	18.6	6	225	110	3620	18.7	78	US
336	AMC Cor	18.1	6	258	120	3410	15.1	78	US
337	Chevrole	19.2	8	305	145	3425	13.2	78	US
338	Buick Re	17.7	6	231	165	3445	13.4	78	US
339	Ford Futu	18.1	8	302	139	3205	11.2	78	US
340	Dodge M	17.5	8	318	140	4080	13.7	78	US
341	Chevrole	30	4	98	68	2155	16.5	78	US
342	Dodge O	30.9	4	105	75	2230	14.5	78	US
343	Plymouth	23.2	4	156	105	2745	16.7	78	US
344	Oldsmob	23.8	4	151	85	2855	17.6	78	US
345	Pontiac L	21.5	6	231	115	3245	15.4	79	US
346	Mercury A	19.8	6	200	85	2990	18.2	79	US
347	Ford Fairı	22.3	4	140	88	2890	17.3	79	US
348	AMC Cor	20.2	6	232	90	3265	18.2	79	US
349	Dodge A:	20.6	6	225	110	3360	16.6	79	US
350	Chevrole	17	8	305	130	3840	15.4	79	US
351	Ford LTD	17.6	8	302	129	3725	13.4	79	US
352	Mercury (	16.5	8	351	138	3955	13.2	79	US
353	Dodge St	18.2	8	318	135	3830	15.2	79	US
354	Buick Est	16.9	8	350	155	4360	14.9	79	US
355	Ford Cou	15.5	8	351	142	4054	14.3	79	US
356	Chevrole	19.2	8	267	125	3605	15	79	US
357	Chrysler L	18.5	8	360	150	3940	13	79	US
358	Dodge C	35.7	4	98	80	1915	14.4	79	US
359	AMC Spir	27.4	4	121	80	2670	15	79	US
360	Cadillac E	23	8	350	125	3900	17.4	79	US
361	Oldsmob	23.9	8	260	90	3420	22.2	79	US
362	Plymouth	34.2	4	105	70	2200	13.2	79	US
363	Plymouth	34.5	4	105	70	2150	14.9	79	US
364	Buick Sky	28.4	4	151	90	2670	16	79	US
365	Chevrole	28.8	6	173	115	2595	11.3	79	US
366	Oldsmob	26.8	6	173	115	2700	12.9	79	US
367	Pontiac F	33.5	4	151	90	2556	13.2	79	US

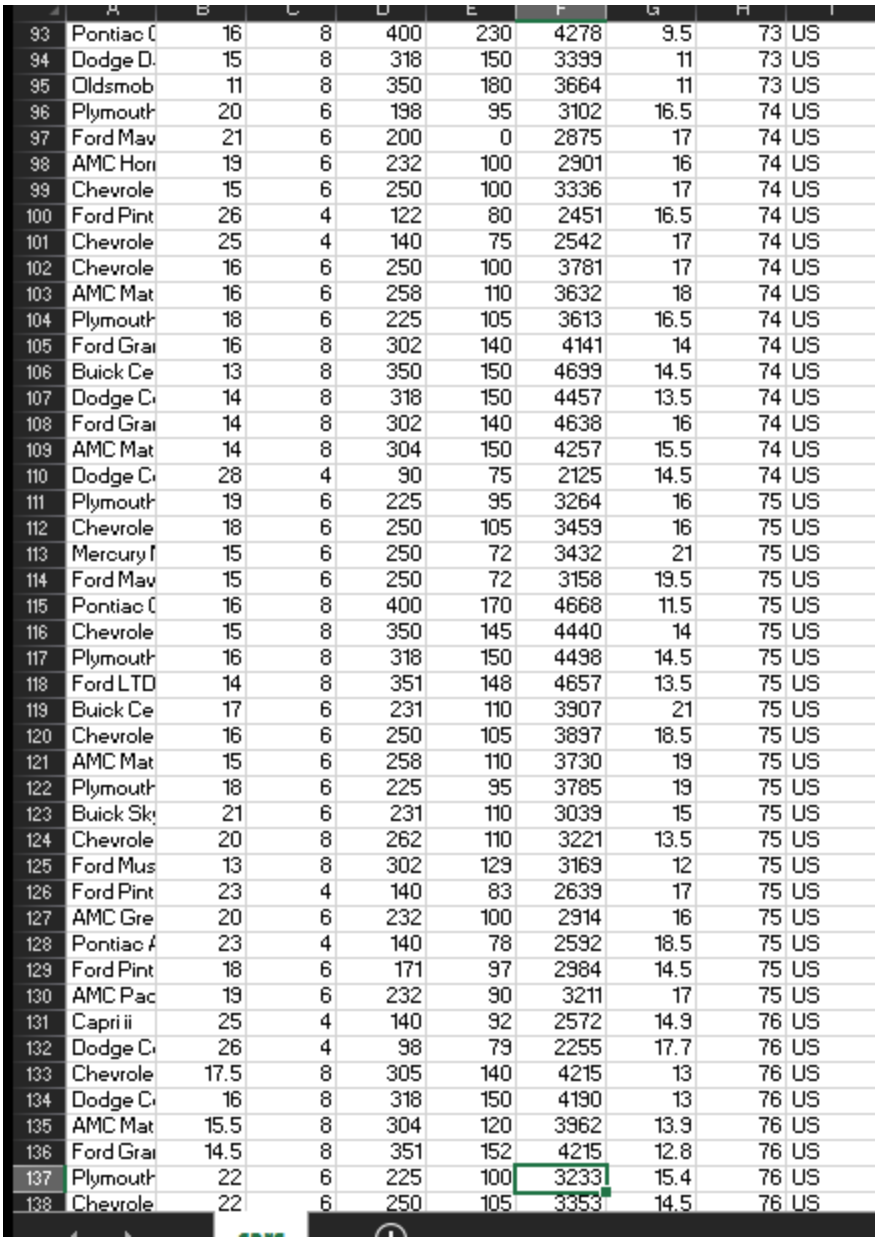
	A	B	C	D	E	F	G	H	I
368	Chevrole	32.1	4	98	70	2120	15.5	80	US
369	Chevrole	28	4	151	90	2678	16.5	80	US
370	Ford Fair	26.4	4	140	88	2870	18.1	80	US
371	AMC Cor	24.3	4	151	90	3003	20.1	80	US
372	Dodge A:	19.1	6	225	90	3381	18.7	80	US
373	Dodge C	27.9	4	156	105	2800	14.4	80	US
374	Ford Mus	23.6	4	140	0	2905	14.3	80	US
375	Plymouth	27.2	4	135	84	2490	15.7	81	US
376	Buick Sky	26.6	4	151	84	2635	16.4	81	US
377	Dodge A	25.8	4	156	92	2620	14.4	81	US
378	Chevrole	23.5	6	173	110	2725	12.6	81	US
379	Plymouth	30	4	135	84	2385	12.9	81	US
380	Plymouth	39	4	86	64	1875	16.4	81	US
381	Plymouth	34.7	4	105	63	2215	14.9	81	US
382	Ford Esc	34.4	4	98	65	2045	16.2	81	US
383	Ford Esc	29.9	4	98	65	2380	20.7	81	US
384	Buick Ce	22.4	6	231	110	3415	15.8	81	US
385	Oldsmob	26.6	8	350	105	3725	19	81	US
386	Ford Gre	20.2	6	200	88	3060	17.1	81	US
387	Chrysler L	17.6	6	225	85	3465	16.6	81	US
388	Chevrole	28	4	112	88	2605	19.6	82	US
389	Chevrole	27	4	112	88	2640	18.6	82	US
390	Chevrole	34	4	112	88	2395	18	82	US
391	Pontiac J	31	4	112	85	2575	16.2	82	US
392	Dodge A	29	4	135	84	2525	16	82	US
393	Pontiac F	27	4	151	90	2735	18	82	US
394	Ford Fair	24	4	140	92	2865	16.4	82	US
395	AMC Cor	23	4	151	0	3035	20.5	82	US
396	Plymouth	38	4	105	63	2125	14.7	82	US
397	Mercury L	36	4	98	70	2125	17.3	82	US
398	Buick Ce	25	6	181	110	2945	16.4	82	US
399	Oldsmob	38	6	262	85	3015	17	82	US
400	Chrysler L	26	4	156	92	2585	14.5	82	US
401	Ford Gre	22	6	232	112	2835	14.7	82	US
402	Dodge Cl	36	4	135	84	2370	13	82	US
403	Chevrole	27	4	151	90	2950	17.3	82	US
404	Ford Mus	27	4	140	86	2790	15.6	82	US
405	Dodge R	32	4	135	84	2295	11.6	82	US
406	Ford Ran	28	4	120	79	2625	18.6	82	US
407	Chevy S-	31	4	119	82	2720	19.4	82	US

Below are the screenshot of our processed dataset for hypothesis testing



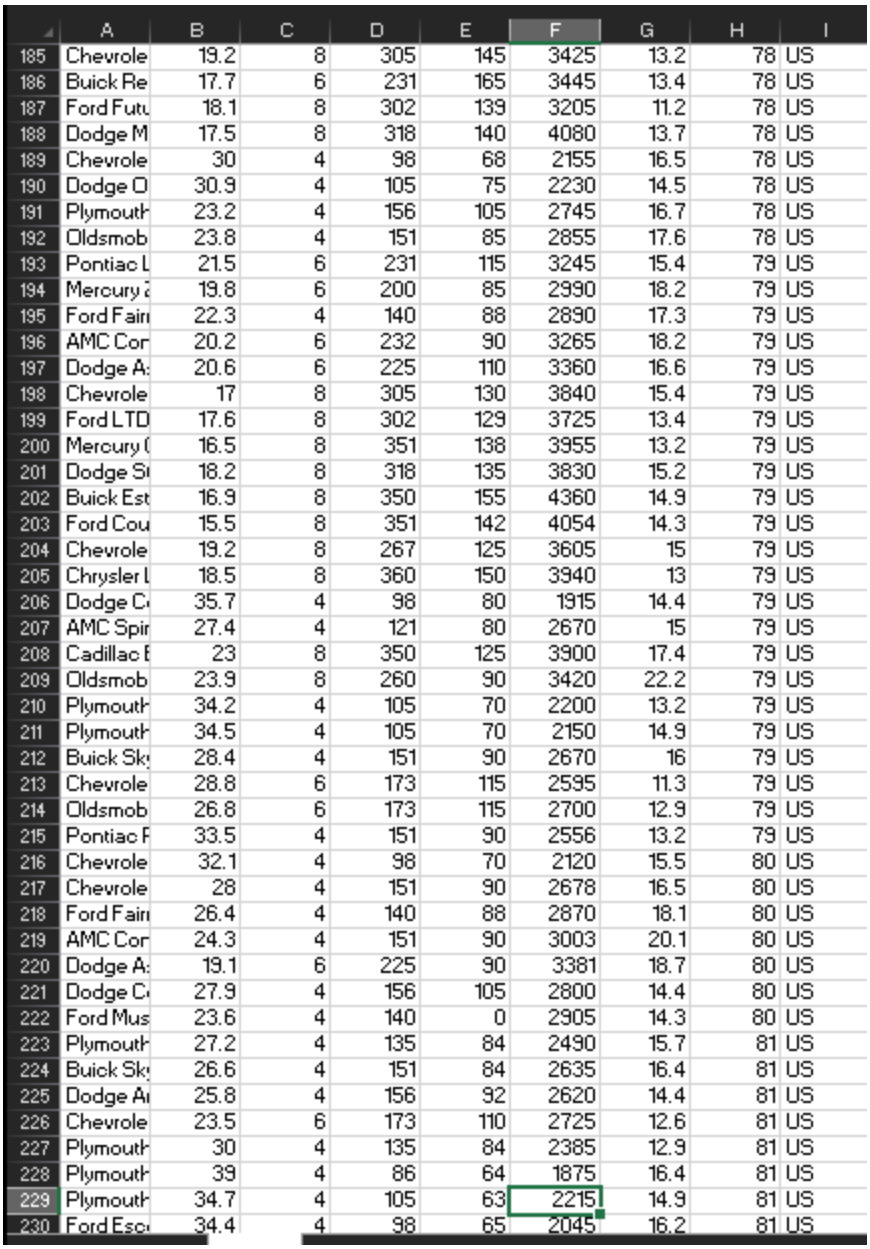
	A	B	C	D	E	F	G	H	I
1	Car	MPG	Cylinders	Displacer	Horsepo	Weight	Accelera	Model	Origin
2	Chevrole	18	8	307	130	3504	12	70	US
3	Buick Sk	15	8	350	165	3693	11.5	70	US
4	Plymouth	18	8	318	150	3436	11	70	US
5	AMC Reb	16	8	304	150	3433	12	70	US
6	Ford Tori	17	8	302	140	3449	10.5	70	US
7	Ford Gal	15	8	429	198	4341	10	70	US
8	Chevrole	14	8	454	220	4354	9	70	US
9	Plymouth	14	8	440	215	4312	8.5	70	US
10	Pontiac C	14	8	455	225	4425	10	70	US
11	AMC Amb	15	8	390	190	3850	8.5	70	US
12	Chevrole	0	8	350	165	4142	11.5	70	US
13	Ford Tori	0	8	351	153	4034	11	70	US
14	Plymouth	0	8	383	175	4166	10.5	70	US
15	AMC Reb	0	8	360	175	3850	11	70	US
16	Dodge Cl	15	8	383	170	3563	10	70	US
17	Plymouth	14	8	340	160	3609	8	70	US
18	Ford Mus	0	8	302	140	3353	8	70	US
19	Chevrole	15	8	400	150	3761	9.5	70	US
20	Buick Est	14	8	455	225	3086	10	70	US
21	Plymouth	22	6	198	95	2833	15.5	70	US
22	AMC Hor	18	6	199	97	2774	15.5	70	US
23	Ford Mav	21	6	200	85	2587	16	70	US
24	AMC Gre	21	6	199	90	2648	15	70	US
25	Ford F25	10	8	360	215	4615	14	70	US
26	Chevy C2	10	8	307	200	4376	15	70	US
27	Dodge D	11	8	318	210	4382	13.5	70	US
28	Hi 1200D	9	8	304	193	4732	18.5	70	US
29	Chevrole	28	4	140	90	2264	15.5	71	US
30	Ford Pint	25	4	98	0	2046	19	71	US
31	AMC Gre	19	6	232	100	2634	13	71	US
32	Plymouth	16	6	225	105	3439	15.5	71	US
33	Chevrole	17	6	250	100	3329	15.5	71	US
34	Ford Tori	19	6	250	88	3302	15.5	71	US
35	AMC Mat	18	6	232	100	3288	15.5	71	US
36	Chevrole	14	8	350	165	4209	12	71	US
37	Pontiac C	14	8	400	175	4464	11.5	71	US
38	Ford Gal	14	8	351	153	4154	13.5	71	US
39	Plymouth	14	8	318	150	4096	13	71	US
40	Dodge M	12	8	383	180	4955	11.5	71	US
41	Ford Cou	13	8	400	170	4746	12	71	US
42	Pontiac S	13	8	400	175	5140	12	71	US
43	AMC Hor	18	6	258	110	2962	13.5	71	US
44	Chevrole	22	4	140	72	2408	19	71	US
45	Pontiac F	19	6	250	100	3282	15	71	US
46	Ford Mus	18	6	250	88	3139	14.5	71	US

	A	B	C	D	E	F	G	H	I
47	Mercury (	23	4	122	86	2220	14	71	US
48	Plymouth	26	4	91	70	1955	20.5	71	US
49	Dodge C	25	4	97.5	80	2126	17	72	US
50	Chevrole	20	4	140	90	2408	19.5	72	US
51	Ford Pint	21	4	122	86	2226	16.5	72	US
52	Chevrole	13	8	350	165	4274	12	72	US
53	Pontiac (	14	8	400	175	4385	12	72	US
54	Plymouth	15	8	318	150	4135	13.5	72	US
55	Ford Gal	14	8	351	153	4129	13	72	US
56	AMC Amb	17	8	304	150	3672	11.5	72	US
57	Mercury I	11	8	429	208	4633	11	72	US
58	Buick Le	13	8	350	155	4502	13.5	72	US
59	Oldsmob	12	8	350	160	4456	13.5	72	US
60	Chrysler I	13	8	400	190	4422	12.5	72	US
61	AMC Mat	15	8	304	150	3892	12.5	72	US
62	Chevrole	13	8	307	130	4098	14	72	US
63	Ford Gra	13	8	302	140	4294	16	72	US
64	Plymouth	14	8	318	150	4077	14	72	US
65	Ford Pint	22	4	122	86	2395	16	72	US
66	Dodge C	28	4	98	80	2164	15	72	US
67	Buick Ce	13	8	350	175	4100	13	73	US
68	AMC Mat	14	8	304	150	3672	11.5	73	US
69	Chevrole	13	8	350	145	3988	13	73	US
70	Ford Gra	14	8	302	137	4042	14.5	73	US
71	Dodge C	15	8	318	150	3777	12.5	73	US
72	Mercury I	12	8	429	198	4952	11.5	73	US
73	Chevrole	13	8	400	150	4464	12	73	US
74	Ford LTD	13	8	351	158	4363	13	73	US
75	Plymouth	14	8	318	150	4237	14.5	73	US
76	Chrysler I	13	8	440	215	4735	11	73	US
77	Buick Ele	12	8	455	225	4951	11	73	US
78	AMC Amb	13	8	360	175	3821	11	73	US
79	Plymouth	18	6	225	105	3121	16.5	73	US
80	Chevrole	16	6	250	100	3278	18	73	US
81	AMC Hor	18	6	232	100	2945	16	73	US
82	Ford Mav	18	6	250	88	3021	16.5	73	US
83	Plymouth	23	6	198	95	2904	16	73	US
84	Chevrole	11	8	400	150	4997	14	73	US
85	Ford Cou	12	8	400	167	4906	12.5	73	US
86	Plymouth	13	8	360	170	4654	13	73	US
87	Oldsmob	12	8	350	180	4499	12.5	73	US
88	AMC Gre	18	6	232	100	2789	15	73	US
89	Chevrole	21	4	140	72	2401	19.5	73	US
90	Ford Pint	19	4	122	85	2310	18.5	73	US
91	Mercury (	21	6	155	107	2472	14	73	US
92	Chevrole	15	8	350	145	4082	13	73	US

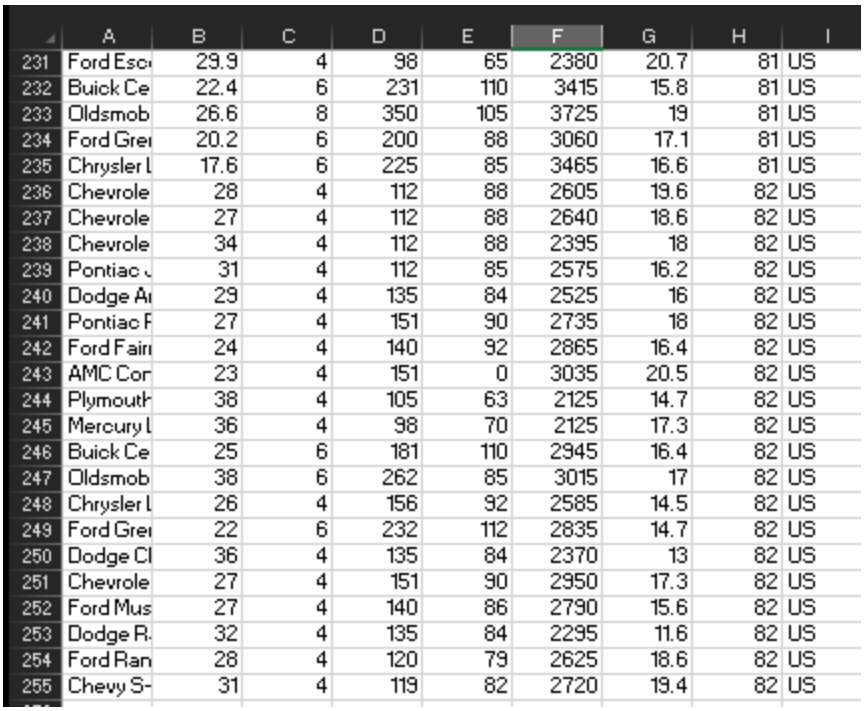


	A	B	C	D	E	F	G	H	I
93	Pontiac (	16	8	400	230	4278	9.5	73	US
94	Dodge D.	15	8	318	150	3399	11	73	US
95	Oldsmob	11	8	350	180	3664	11	73	US
96	Plymouth	20	6	198	95	3102	16.5	74	US
97	Ford Mav	21	6	200	0	2875	17	74	US
98	AMC Hor	19	6	232	100	2901	16	74	US
99	Chevrole	15	6	250	100	3336	17	74	US
100	Ford Pint	26	4	122	80	2451	16.5	74	US
101	Chevrole	25	4	140	75	2542	17	74	US
102	Chevrole	16	6	250	100	3781	17	74	US
103	AMC Mat	16	6	258	110	3632	18	74	US
104	Plymouth	18	6	225	105	3613	16.5	74	US
105	Ford Gra	16	8	302	140	4141	14	74	US
106	Buick Ce	13	8	350	150	4699	14.5	74	US
107	Dodge C	14	8	318	150	4457	13.5	74	US
108	Ford Gra	14	8	302	140	4638	16	74	US
109	AMC Mat	14	8	304	150	4257	15.5	74	US
110	Dodge C	28	4	90	75	2125	14.5	74	US
111	Plymouth	19	6	225	95	3264	16	75	US
112	Chevrole	18	6	250	105	3459	16	75	US
113	Mercury I	15	6	250	72	3432	21	75	US
114	Ford Mav	15	6	250	72	3158	19.5	75	US
115	Pontiac (	16	8	400	170	4668	11.5	75	US
116	Chevrole	15	8	350	145	4440	14	75	US
117	Plymouth	16	8	318	150	4498	14.5	75	US
118	Ford LTD	14	8	351	148	4657	13.5	75	US
119	Buick Ce	17	6	231	110	3907	21	75	US
120	Chevrole	16	6	250	105	3897	18.5	75	US
121	AMC Mat	15	6	258	110	3730	19	75	US
122	Plymouth	18	6	225	95	3785	19	75	US
123	Buick Sk	21	6	231	110	3039	15	75	US
124	Chevrole	20	8	262	110	3221	13.5	75	US
125	Ford Mus	13	8	302	129	3169	12	75	US
126	Ford Pint	23	4	140	83	2639	17	75	US
127	AMC Gre	20	6	232	100	2914	16	75	US
128	Pontiac A	23	4	140	78	2592	18.5	75	US
129	Ford Pint	18	6	171	97	2984	14.5	75	US
130	AMC Pac	19	6	232	90	3211	17	75	US
131	Capri ii	25	4	140	92	2572	14.9	76	US
132	Dodge C	26	4	98	79	2255	17.7	76	US
133	Chevrole	17.5	8	305	140	4215	13	76	US
134	Dodge C	16	8	318	150	4190	13	76	US
135	AMC Mat	15.5	8	304	120	3962	13.9	76	US
136	Ford Gra	14.5	8	351	152	4215	12.8	76	US
137	Plymouth	22	6	225	100	3233	15.4	76	US
138	Chevrole	22	6	250	105	3353	14.5	76	US

	A	B	C	D	E	F	G	H	I
139	Ford Mav	24	6	200	81	3012	17.6	76	US
140	AMC Hor	22.5	6	232	90	3085	17.6	76	US
141	Chevrole	29	4	85	52	2035	22.2	76	US
142	Chevrole	24.5	4	98	60	2164	22.1	76	US
143	Dodge A:	20	6	225	100	3651	17.7	76	US
144	Ford Gre	18	6	250	78	3574	21	76	US
145	Pontiac V	18.5	6	250	110	3645	16.2	76	US
146	AMC Pac	17.5	6	258	95	3193	17.8	76	US
147	Ford Pint	26.5	4	140	72	2565	13.6	76	US
148	Plymouth	13	8	318	150	3940	13.2	76	US
149	Cadillac S	16.5	8	350	180	4380	12.1	76	US
150	Chevrole	13	8	350	145	4055	12	76	US
151	Ford F108	13	8	302	130	3870	15	76	US
152	Dodge D	13	8	318	150	3755	14	76	US
153	Buick Op	30	4	111	80	2155	14.8	77	US
154	Plymouth	25.5	4	122	96	2300	15.5	77	US
155	Chevrole	17.5	8	305	145	3880	12.5	77	US
156	Oldsmob	17	8	260	110	4060	19	77	US
157	Dodge M	15.5	8	318	145	4140	13.7	77	US
158	Mercury (	15	8	302	130	4295	14.9	77	US
159	Chevrole	17.5	6	250	110	3520	16.4	77	US
160	Buick Sky	20.5	6	231	105	3425	16.9	77	US
161	Plymouth	19	6	225	100	3630	17.7	77	US
162	Ford Gre	18.5	6	250	98	3525	19	77	US
163	Pontiac (	16	8	400	180	4220	11.1	77	US
164	Chevrole	15.5	8	350	170	4165	11.4	77	US
165	Chrysler (	15.5	8	400	190	4325	12.2	77	US
166	Ford Thu	16	8	351	149	4335	14.5	77	US
167	Pontiac S	24.5	4	151	88	2740	16	77	US
168	Ford Mus	25.5	4	140	89	2755	15.8	77	US
169	Chevrole	30.5	4	98	63	2051	17	77	US
170	Dodge C	33.5	4	98	83	2075	15.9	77	US
171	Ford Fies	36.1	4	98	66	1800	14.4	78	US
172	Oldsmob	19.9	8	260	110	3365	15.5	78	US
173	Dodge Di	19.4	8	318	140	3735	13.2	78	US
174	Mercury M	20.2	8	302	139	3570	12.8	78	US
175	Pontiac P	19.2	6	231	105	3535	19.2	78	US
176	Chevrole	20.5	6	200	95	3155	18.2	78	US
177	Ford Fairı	20.2	6	200	85	2965	15.8	78	US
178	Ford Fairı	25.1	4	140	88	2720	15.4	78	US
179	Plymouth	20.5	6	225	100	3430	17.2	78	US
180	AMC Cor	19.4	6	232	90	3210	17.2	78	US
181	Buick Ce	20.6	6	231	105	3380	15.8	78	US
182	Mercury a	20.8	6	200	85	3070	16.7	78	US
183	Dodge A:	18.6	6	225	110	3620	18.7	78	US
184	AMC Cor	18.1	6	258	120	3410	15.1	78	US



	A	B	C	D	E	F	G	H	I
185	Chevrole	19.2	8	305	145	3425	13.2	78	US
186	Buick Re	17.7	6	231	165	3445	13.4	78	US
187	Ford Futu	18.1	8	302	139	3205	11.2	78	US
188	Dodge M	17.5	8	318	140	4080	13.7	78	US
189	Chevrole	30	4	98	68	2155	16.5	78	US
190	Dodge O	30.9	4	105	75	2230	14.5	78	US
191	Plymouth	23.2	4	156	105	2745	16.7	78	US
192	Oldsmob	23.8	4	151	85	2855	17.6	78	US
193	Pontiac L	21.5	6	231	115	3245	15.4	79	US
194	Mercury A	19.8	6	200	85	2990	18.2	79	US
195	Ford Fair	22.3	4	140	88	2890	17.3	79	US
196	AMC Cor	20.2	6	232	90	3265	18.2	79	US
197	Dodge A:	20.6	6	225	110	3360	16.6	79	US
198	Chevrole	17	8	305	130	3840	15.4	79	US
199	Ford LTD	17.6	8	302	129	3725	13.4	79	US
200	Mercury (	16.5	8	351	138	3955	13.2	79	US
201	Dodge St	18.2	8	318	135	3830	15.2	79	US
202	Buick Est	16.9	8	350	155	4360	14.9	79	US
203	Ford Cou	15.5	8	351	142	4054	14.3	79	US
204	Chevrole	19.2	8	267	125	3605	15	79	US
205	Chrysler L	18.5	8	360	150	3940	13	79	US
206	Dodge C	35.7	4	98	80	1915	14.4	79	US
207	AMC Spir	27.4	4	121	80	2670	15	79	US
208	Cadillac E	23	8	350	125	3900	17.4	79	US
209	Oldsmob	23.9	8	260	90	3420	22.2	79	US
210	Plymouth	34.2	4	105	70	2200	13.2	79	US
211	Plymouth	34.5	4	105	70	2150	14.9	79	US
212	Buick Sky	28.4	4	151	90	2670	16	79	US
213	Chevrole	28.8	6	173	115	2595	11.3	79	US
214	Oldsmob	26.8	6	173	115	2700	12.9	79	US
215	Pontiac F	33.5	4	151	90	2556	13.2	79	US
216	Chevrole	32.1	4	98	70	2120	15.5	80	US
217	Chevrole	28	4	151	90	2678	16.5	80	US
218	Ford Fair	26.4	4	140	88	2870	18.1	80	US
219	AMC Cor	24.3	4	151	90	3003	20.1	80	US
220	Dodge A:	19.1	6	225	90	3381	18.7	80	US
221	Dodge C	27.9	4	156	105	2800	14.4	80	US
222	Ford Mus	23.6	4	140	0	2905	14.3	80	US
223	Plymouth	27.2	4	135	84	2490	15.7	81	US
224	Buick Sky	26.6	4	151	84	2635	16.4	81	US
225	Dodge Ar	25.8	4	156	92	2620	14.4	81	US
226	Chevrole	23.5	6	173	110	2725	12.6	81	US
227	Plymouth	30	4	135	84	2385	12.9	81	US
228	Plymouth	39	4	86	64	1875	16.4	81	US
229	Plymouth	34.7	4	105	63	2215	14.9	81	US
230	Ford Esc	34.4	4	98	65	2045	16.2	81	US



	A	B	C	D	E	F	G	H	I
231	Ford Esc	29.9	4	98	65	2380	20.7	81	US
232	Buick Ce	22.4	6	231	110	3415	15.8	81	US
233	Oldsmob	26.6	8	350	105	3725	19	81	US
234	Ford Gre	20.2	6	200	88	3060	17.1	81	US
235	Chrysler L	17.6	6	225	85	3465	16.6	81	US
236	Chevrole	28	4	112	88	2605	19.6	82	US
237	Chevrole	27	4	112	88	2640	18.6	82	US
238	Chevrole	34	4	112	88	2395	18	82	US
239	Pontiac J	31	4	112	85	2575	16.2	82	US
240	Dodge Ar	29	4	135	84	2525	16	82	US
241	Pontiac F	27	4	151	90	2735	18	82	US
242	Ford Fair	24	4	140	92	2865	16.4	82	US
243	AMC Cor	23	4	151	0	3035	20.5	82	US
244	Plymouth	38	4	105	63	2125	14.7	82	US
245	Mercury L	36	4	98	70	2125	17.3	82	US
246	Buick Ce	25	6	181	110	2945	16.4	82	US
247	Oldsmob	38	6	262	85	3015	17	82	US
248	Chrysler L	26	4	156	92	2585	14.5	82	US
249	Ford Gre	22	6	232	112	2835	14.7	82	US
250	Dodge Cl	36	4	135	84	2370	13	82	US
251	Chevrole	27	4	151	90	2950	17.3	82	US
252	Ford Mus	27	4	140	86	2790	15.6	82	US
253	Dodge R	32	4	135	84	2295	11.6	82	US
254	Ford Ran	28	4	120	79	2625	18.6	82	US
255	Chevy S-	31	4	119	82	2720	19.4	82	US