Statistics/Data Analysis

```
      name:  <unnamed>
       log:  C:\Users\k19056473\Downloads\bm.smcl
  log type:  smcl
 opened on:  14 Oct 2019, 15:01:46

1 .
2 . use "C:\Users\k19056473\Downloads\auto.dta"
  (1978 Automobile Data)

3 .
4 . *Question 2 a
5 . twoway (scatter price weight) (lfit price weight)

6 .
7 .
8 .
9 . *Question 2 b
10. reg price weight, vce (robust)

  Linear regression                               Number of obs     =         74
                                                  F(1, 72)          =      27.51
                                                  Prob > F          =     0.0000
                                                  R-squared         =     0.2901
                                                  Root MSE          =     2502.3

------------------------------------------------------------------------------
             |               Robust
       price |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      weight |   2.044063   .3897465     5.24   0.000     1.267117    2.821008
       _cons |  -6.707353   1032.394    -0.01   0.995    -2064.747    2051.332
------------------------------------------------------------------------------

11.
12.
13. *Question 2 d
14. reg price foreign, vce (robust)

  Linear regression                               Number of obs     =         74
                                                  F(1, 72)          =       0.20
                                                  Prob > F          =     0.6577
                                                  R-squared         =     0.0024
                                                  Root MSE          =     2966.4

------------------------------------------------------------------------------
             |               Robust
       price |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     foreign |   312.2587   701.7814     0.44   0.658    -1086.717    1711.234
       _cons |   6072.423   431.2084    14.08   0.000     5212.825    6932.021
------------------------------------------------------------------------------

15.
16. *Question 2 e
17. reg price foreign weight, vce (robust)

  Linear regression                               Number of obs     =         74
                                                  F(2, 71)          =      22.87
                                                  Prob > F          =     0.0000
                                                  R-squared         =     0.4989
                                                  Root MSE          =       2117

------------------------------------------------------------------------------
             |               Robust
       price |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     foreign |   3637.001   643.1538     5.65   0.000     2354.589    4919.413
      weight |   3.320737   .5010322     6.63   0.000     2.321707    4.319767
       _cons |  -4942.844   1593.664    -3.10   0.003    -8120.519   -1765.169
------------------------------------------------------------------------------
```

```
18.
19. *Auxiliary regression
20. reg foreign weight
```

Source	SS	df	MS	Number of obs	=	74
				F(1, 72)	=	39.02
Model	5.43318505	1	5.43318505	Prob > F	=	0.0000
Residual	10.0262744	72	.139253811	R-squared	=	0.3514
				Adj R-squared	=	0.3424
Total	15.4594595	73	.211773417	Root MSE	=	.37317

foreign	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
weight	-.000351	.0000562	-6.25	0.000	-.0004631	-.000239
_cons	1.3572	.1751417	7.75	0.000	1.008061	1.706338

```
21.
22.
23. *Question 2 g
24. gen lnprice=ln(price)

25. reg lnprice foreign , vce (robust)
```

Linear regression

				Number of obs	=	74
				F(1, 72)	=	0.60
				Prob > F	=	0.4414
				R-squared	=	0.0076
				Root MSE	=	.39332

lnprice	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
foreign	.0741515	.0957919	0.77	0.441	-.1168062	.2651093
_cons	8.618587	.0561798	153.41	0.000	8.506595	8.73058

```
26. reg lnprice foreign weight, vce (robust)
```

Linear regression

				Number of obs	=	74
				F(2, 71)	=	30.21
				Prob > F	=	0.0000
				R-squared	=	0.5480
				Root MSE	=	.26729

lnprice	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
foreign	.5352669	.0859507	6.23	0.000	.363886	.7066477
weight	.0004606	.00006	7.67	0.000	.0003409	.0005802
_cons	7.090858	.199869	35.48	0.000	6.69233	7.489385

```
27.
28.
29.
30.
```