

CH4 LAB OUTPUT - INTRODUCTION TO MULTIPLE REGRESSION

*To enter data.

DATA LIST FREE/ qual valu buy.

BEGIN DATA

1 5 15 1 4 15 2 4 14 2 5 18 4 1 10 4 2 14 5 2 135 1 13

END DATA.

*1/2/3/4/5/6.

REGRESSION /DESCRIPTIVES /DEPENDENT = buy /ENTER qual valu

 /SAVE PRED(prdb.qv) RESID(resb.qv) .

	Mean	Std Dev	Label
BUY	14.000	2.268	
QUAL	3.000	1.690	
VALU	3.000	1.690	

Correlation:

	BUY	QUAL	VALU
QUAL	-.596		
VALU	.820	-.900	

Model R	R Square	Adjusted R Square	Std. Error of the Estimate
1 .882(a)	.778	.689	1.26491

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.000	2	14.000	8.750	.023(a)
	Residual	8.000	5	1.600		
	Total	36.000	7			

Model		Unstandardized		Standardized		
		Coefficients		Coefficients		
	B	Std. Error	Beta	t	Sig.	
1	(Constant)	5.000	3.821		1.309	.248
	QUAL	1.000	.649	.745	1.541	.184
	VALU	2.000	.649	1.491	3.082	.027

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11.0000	17.0000	14.0000	2.00000	8
Residual	-1.0000	1.0000	.0000	1.06904	8

LIST.

QUAL	VALU	BUY	PRDB.QV	RESB.QV
1.00	5.00	15.00	16.00000	-1.00000
1.00	4.00	15.00	14.00000	1.00000
2.00	4.00	14.00	15.00000	-1.00000
2.00	5.00	18.00	17.00000	1.00000
4.00	1.00	10.00	11.00000	-1.00000
4.00	2.00	14.00	13.00000	1.00000
5.00	2.00	13.00	14.00000	-1.00000
5.00	1.00	13.00	12.00000	1.00000

*8.

```
VARIABLE LABELS prdb.qv ' resb.qv '.
CORRELATE buy qual valu prdb.qv resb.qv /STATISTICS = DESCRIPTIVES.
```

Variable	Cases	Mean	Std Dev
BUY	8	14.0000	2.2678
QUAL	8	3.0000	1.6903
VALU	8	3.0000	1.6903
PRDB.QV	8	14.0000	2.0000
RESB.QV	8	.0000	1.0690

-- Correlation Coefficients --

	BUY	QUAL	VALU	PRDB.QV
QUAL	-.5963			
VALU	.8199	-.9000		
PRDB.QV	.8819	-.6761	.9297	
RESB.QV	.4714	.0000	.0000	.0000

*7. 3-D Graph *Graph | Scatter | 3-D | Define.*

```
GRAPH /SCATTERPLOT(XYZ)=valu WITH buy WITH qual.
```

*9. Commands below produce prediction plane.

```
INPUT PROGRAM.
LOOP v = 1 to 5 BY .5.
LEAVE v.
LOOP q = 1 to 5 BY .5.
END CASE.
END LOOP.
END LOOP.
END FILE.
END INPUT PROGRAM.
COMP b = 5.0 + 1.0*q + 2.0*v.
GRAPH /SCATTERPLOT(XYZ)= v WITH b WITH q.
LIST.
```

v	q	b
1.00	1.00	8.00
1.00	1.50	8.50
1.00	2.00	9.00
1.00	2.50	9.50
1.00	3.00	10.0
1.00	3.50	10.5
1.00	4.00	11.0
1.00	4.50	11.5
1.00	5.00	12.0
1.50	1.00	9.00
1.50	1.50	9.50
...		
4.50	4.50	18.5
4.50	5.00	19.0
5.00	1.00	16.0
5.00	1.50	16.5
5.00	2.00	17.0
5.00	2.50	17.5
5.00	3.00	18.0
5.00	3.50	18.5
5.00	4.00	19.0
5.00	4.50	19.5
5.00	5.00	20.0

