

Stat 296 Fall 2007
 Linear Regression

```

data tuition;
input x y;
datalines;
 2.69 3.57
 2.51 3.77
 2.25 4.8
 2.8 7.36
 1.85 2.86
 2.19 1.79
;
proc freq data=tuition;
tables x*y / measures cl noprint;
exact measures;      /* Use /mc option to randomly sample the permutations */
test measures;
run;
  
```

The FREQ Procedure

Statistics for Table of x by y

Statistic	Value	ASE	95%	
			Confidence Limits	
Gamma	0.4667	0.2434	-0.0105	0.9438
Kendall's Tau-b	0.4667	0.2434	-0.0105	0.9438
Stuart's Tau-c	0.4667	0.2434	-0.0105	0.9438
Somers' D C R	0.4667	0.2434	-0.0105	0.9438
Somers' D R C	0.4667	0.2434	-0.0105	0.9438
Pearson Correlation	0.6411	0.1695	0.3088	0.9733
Spearman Correlation	0.7143	0.2213	0.2805	1.0000
Lambda Asymmetric C R	1.0000	0.0000	1.0000	1.0000
Lambda Asymmetric R C	1.0000	0.0000	1.0000	1.0000
Lambda Symmetric	1.0000	0.0000	1.0000	1.0000
Uncertainty Coefficient C R	1.0000	0.0000	1.0000	1.0000
Uncertainty Coefficient R C	1.0000	0.0000	1.0000	1.0000

The FREQ Procedure

Statistics for Table of x by y

Statistic	Value	ASE	95%	
			Confidence Limits	
Uncertainty Coefficient Symmetric	1.0000	0.0000	1.0000	1.0000

The FREQ Procedure

Statistics for Table of x by y

Gamma

```
-----  
Gamma                0.4667  
ASE                  0.2434  
95% Lower Conf Limit -0.0105  
95% Upper Conf Limit  0.9438
```

Test of H0: Gamma = 0

```
ASE under H0        0.2434  
Z                   1.9170  
One-sided Pr > Z    0.0276  
Two-sided Pr > |Z|  0.0552
```

The FREQ Procedure

Statistics for Table of x by y

Kendall's Tau-b

```
-----  
Tau-b               0.4667  
ASE                 0.2434  
95% Lower Conf Limit -0.0105  
95% Upper Conf Limit  0.9438
```

Test of H0: Tau-b = 0

```
ASE under H0        0.2434  
Z                   1.9170  
One-sided Pr > Z    0.0276  
Two-sided Pr > |Z|  0.0552
```

The FREQ Procedure

Statistics for Table of x by y

Stuart's Tau-c

```
-----  
Tau-c               0.4667  
ASE                 0.2434  
95% Lower Conf Limit -0.0105  
95% Upper Conf Limit  0.9438
```

Test of H0: Tau-c = 0

```
ASE under H0        0.2434  
Z                   1.9170  
One-sided Pr > Z    0.0276  
Two-sided Pr > |Z|  0.0552
```

The FREQ Procedure

Statistics for Table of x by y

Somers' D C|R

Somers' D C|R 0.4667
ASE 0.2434
95% Lower Conf Limit -0.0105
95% Upper Conf Limit 0.9438

Test of H0: Somers' D C|R = 0

ASE under H0 0.2434
Z 1.9170
One-sided Pr > Z 0.0276
Two-sided Pr > |Z| 0.0552

The FREQ Procedure

Statistics for Table of x by y

Somers' D R|C

Somers' D R|C 0.4667
ASE 0.2434
95% Lower Conf Limit -0.0105
95% Upper Conf Limit 0.9438

Test of H0: Somers' D R|C = 0

ASE under H0 0.2434
Z 1.9170
One-sided Pr > Z 0.0276
Two-sided Pr > |Z| 0.0552

The FREQ Procedure

Statistics for Table of x by y

Pearson Correlation Coefficient

Correlation (r) 0.6411
ASE 0.1695
95% Lower Conf Limit 0.3088
95% Upper Conf Limit 0.9733

Test of H0: Correlation = 0

ASE under H0 0.3925
Z 1.6334
One-sided Pr > Z 0.0512
Two-sided Pr > |Z| 0.1024

Exact Test

One-sided Pr >= r 0.0736
Two-sided Pr >= |r| 0.1639

The FREQ Procedure

Statistics for Table of x by y

Spearman Correlation Coefficient

Correlation (r) 0.7143
ASE 0.2213
95% Lower Conf Limit 0.2805
95% Upper Conf Limit 1.0000

Test of H0: Correlation = 0

ASE under H0 0.2213
Z 3.2275
One-sided Pr > Z 0.0006
Two-sided Pr > |Z| 0.0012

Exact Test

One-sided Pr >= r 0.0681
Two-sided Pr >= |r| 0.1361

Sample Size = 6