Y	X	XY	X^2	Y^2
2	1	2	1	4
4	1	4	1	16
0	-1	0	1	0
2	-1	-2	1	4
8	0	4	4	24

The REG Procedure
Model: MODEL1
Dependent Variable: y

Number of Observations Read 4
Number of Observations Used 4

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	4.00000	4.00000	2.00	0.2929
Error	2	4.00000	2.00000		
Corrected Total	3	8.00000			

$SS_{total} = \sum (y - \bar{y})^2$

$(2-2)^2 + (4-2)^2 + (0-2)^2 + (2-2)^2 = 8$

Root MSE	1.41421	R-Square	0.5000
Dependent Mean	2.00000	Adj R-Sq	0.2500
Coeff Var	70.71068		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	--Heteroscedasticity Consistent- Standard Error	t Value	Pr > |t|
Intercept	1	2.00000	0.70711	2.83	0.1056	0.50000	4.00	0.0572
x	1	1.00000	0.70711	1.41	0.2929	0.50000	2.00	0.1835

Obs	Variable	Value	Mean Predict	95% CL Mean		95% CL Predict		Residual
1		2.0000	3.0000	1.0000	-1.3027	7.3027	-4.4524	10.4524	-1.0000
2		4.0000	3.0000	1.0000	-1.3027	7.3027	-4.4524	10.4524	1.0000
3		0	1.0000	1.0000	-3.3027	5.3027	-6.4524	8.4524	-1.0000
4		2.0000	1.0000	1.0000	-3.3027	5.3027	-6.4524	8.4524	1.0000

$$S_{xy} = \sum xy - \frac{\sum x \sum y}{n} = 4 - \frac{0(8)}{4} = 4$$

$$S_{xx} = \sum x^2 - \frac{(\sum x)^2}{n} = 4 - \frac{0}{4} = 4$$

$$\hat{b}_1 = \frac{S_{xy}}{S_{xx}} = \frac{4}{4} = 1$$

$$\hat{b}_0 = \bar{y} - \hat{b}_1 \bar{x} = 2 - 1(0) = 2$$

$$\hat{y} = 2 + 1x$$