

Example: Can we predict your final grade in the class from your 1st exam score?

Regression Analysis: Grade versus Exam1

The regression equation is
 $\text{Grade} = 36.8 + 0.614 \text{ Exam1}$

Predictor	Coef	SE Coef	T	P
Constant	36.832	1.655	22.26	0.000
Exam1	0.61352	0.02060	29.78	0.000

S = 5.76575 R-Sq=67.1% R-sq(adj)=67.1%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	29480	29480	886.77	0.000
Residual Error	434	14428	33		
Total	435	43908			

Unusual Observations

Obs	Exam1	Grade	Fit	SE Fit	Residual	St Resid
1	72	57.250	81.005	0.313	-23.755	-4.13R
2	42	58.000	62.600	0.814	-4.600	-0.81 X
4	72	60.313	81.005	0.313	-20.693	-3.59R
5	51	34.813	68.121	0.643	-33.309	-5.81R
6	36	53.720	58.919	0.932	-5.199	-0.91 X
7	63	60.000	75.484	0.433	-15.484	-2.69R
10	54	57.750	69.962	0.588	-12.212	-2.13R
13	48	57.500	66.281	0.699	-8.781	-1.53 X
15	75	67.500	82.846	0.289	-15.346	-2.66R
24	81	69.000	86.527	0.279	-17.527	-3.04R
33	45	65.250	64.440	0.756	0.810	0.14 X
39	78	72.750	84.686	0.277	-11.936	-2.07R

Etc...

R denotes an observation with a large standardized residual.
 X denotes an observation whose X value gives it large leverage.

Predicted Values for New Observations

Obs	Exam1	Fit	SE Fit	95% CI	95% PI
1	80.0	85.913	0.277	(85.370, 86.457)	(74.568, 97.259)

