Regression Using MINITAB

To Create a Scatter Plot

1. Go to Graph
2. Go to Plot
3. Enter the Dependent variable (predicted) in the Y column
4. Enter the Independent variable (predictor) in the X column
5. Hit OK

To find the Correlation Coefficient (Coefficient of Linear Correlation)

1. Go to Stat
2. Go to Basic Statistics
3. Go to Correlation
4. Enter in the variables of interest
5. Hit OK

Sample output below

Correlations: Bat, Win

Pearson correlation of Bat and Win = 0.617
P-Value = 0.000

To perform Regression

1. Go to Stat
2. Go to Regression
3. Go to Regression (yes, again)
4. Put the Dependent variable into the Response box
5. Put the Independent variable(s) in the Predictors box
6. Hit OK

Sample output on back of the sheet
Regression Analysis: Win versus Bat

The regression equation is
Win = -657 + 4.30 Bat

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coef</th>
<th>SE Coef</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-656.8</td>
<td>275.5</td>
<td>-2.38</td>
<td>0.024</td>
</tr>
<tr>
<td>Bat</td>
<td>4.297</td>
<td>1.035</td>
<td>4.15</td>
<td>0.000</td>
</tr>
</tbody>
</table>

S = 54.49  R-Sq = 38.1%  R-Sq(adj) = 35.9%

Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1</td>
<td>51223</td>
<td>51223</td>
<td>17.25</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual Error</td>
<td>28</td>
<td>83143</td>
<td>2969</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>134365</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Unusual Observations

<table>
<thead>
<tr>
<th>Obs</th>
<th>Bat</th>
<th>Win</th>
<th>Fit</th>
<th>SE Fit</th>
<th>Residual</th>
<th>St Resid</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>288</td>
<td>568.00</td>
<td>580.79</td>
<td>24.78</td>
<td>-12.79</td>
<td>-0.26 X</td>
</tr>
</tbody>
</table>

X denotes an observation whose X value gives it large influence.