Practice: Using PROC REG to Fit a Simple Linear Regression Model

Using the **bodyfat2** data set, perform a simple linear regression model.

1. Perform a simple linear regression model with **PctBodyFat2** as the response variable and **Weight** as the predictor.

```
/*st102s04.sas*/
ods graphics on;

proc reg data=STAT1.BodyFat2;
   model PctBodyFat2=Weight;
   title "Regression of % Body Fat on Weight";
run;
quit;

title;
```

Here are the [results](#).

2. What is the value of the F statistic and the associated p-value? How would you interpret this in connection with the null hypothesis?

The value of the F statistic is 150.03 and the p-value is <.001. Therefore, you would reject the null hypothesis of no relationship, or a zero slope for **Weight**.

3. Write the predicted regression equation.

The prediction regression equation is **PctBodyFat2** = -12.05158 + 0.17439 * **Weight**.

4. What is the value of R-square? How would you interpret this?

The R-square value of 0.3751 can be interpreted to mean that 37.51% of the variability in **PctBodyFat2** can be explained by **Weight**.

Hide Solution