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Practice: Fitting a Multiple Logistic Regression Model

Open the file **Impurity Logistic.jmp**.

Fit a logistic regression model in Fit Model for **Outcome** versus **Temp** through **Shift**. Before running the model, change the target category to **Pass**. In this practice exercise, you model the probability that the outcome is **Pass**

To answer the questions below, look at the coefficients in the Parameter Estimates table and use the Prediction Profiler. (Select **Profiler** from the top red triangle.)

1. What is the parameter estimate (the coefficient) for **Catalyst Conc?**

   The coefficient for **Catalyst Conc** is -6.29.

2. What happens to the probability that the outcome is **Pass** as the value of **Catalyst Conc** increases (holding all else constant)?

   The coefficient is negative, so the probability of **Pass** decreases as the value of **Catalyst Conc** increases.

3. What is the parameter estimate for **Shift**? Notice that there are two shifts and that only the parameter estimate for **Shift = 1** is reported.

   The parameter estimate for **Shift[1]** is -0.0135.

4. What happens to the probability that the outcome is **Pass** as the value of **Shift** changes from 1 to 2 (holding all else constant)?

   Shift is not significant, so the difference in the probability of **Pass** between the two shifts is not significant. The probability of **Pass** does not change by a significant amount when you change the **Shift** value from 1 to 2.

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