2.3 Chapter Summary

The standard logistic regression model assumes that the logit of the posterior probability is a linear combination of the input variables. The logit transformation is used to constrain the posterior probability to be between zero and one. The parameter estimates are estimated using the method of maximum likelihood. This method finds the parameter estimates that are most likely given the data. When you exponentiate the slope estimates, you obtain the odds ratio, which compares the odds of the event in one group to the odds of the event in another group.

no close form solution

There are many possibilities for scoring new data, from the SCORE statement in PROC LOGISTIC to DATA step code.

When you oversample rare events, you can use the OFFSET option to adjust the model so that the posterior probabilities reflect the population.

General form of the LOGISTIC procedure:

```
PROC LOGISTIC DATA=SAS-data-set <options>;
      CLASS variables </option>;
      MODEL response=predictors </options>;
      UNITS predictor1=list1 </option>;
      SCORE <options>;
RUN;
```

General form of the SCORE procedure:

```
PROC SCORE DATA=SAS-data-set <options>;
      VAR variables;
RUN;
```