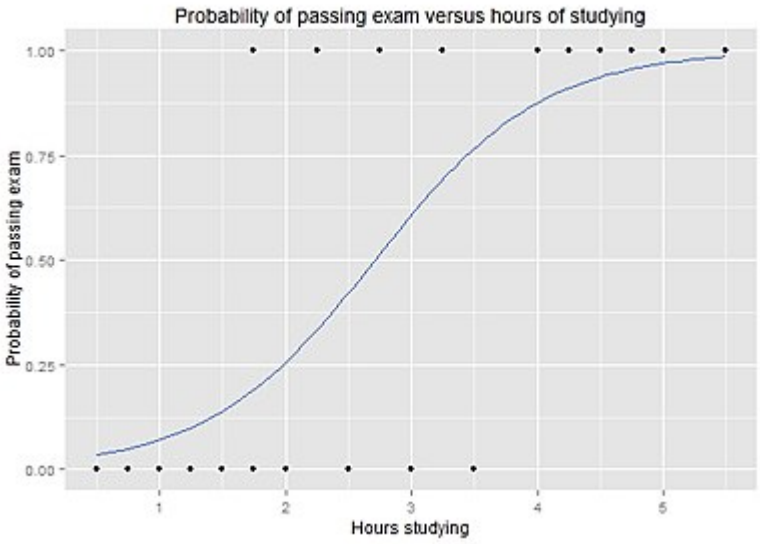
Logistic regression



see Multivariate logistic regression.

see Univariate logistic regression.

In statistics, logistic regression, or logit regression, is a type of probabilistic statistical classification model.

It is also used to predict a binary response from a binary predictor, used for predicting the outcome of a categorical dependent variable (i.e., a class label) based on one or more predictor variables (features). That is, it is used in estimating the parameters of a qualitative response model. The probabilities describing the possible outcomes of a single trial are modeled, as a function of the explanatory (predictor) variables, using a logistic function. Frequently (and subsequently in this article) “logistic regression” is used to refer specifically to the problem in which the dependent variable is binary—that is, the number of available categories is two—while problems with more than two categories are referred to as multinomial logistic regression or, if the multiple categories are ordered, as ordered logistic regression.

Logistic regression measures the relationship between a categorical dependent variable and one or more independent variables, which are usually (but not necessarily) continuous, by using probability scores as the predicted values of the dependent variable.

As such it treats the same set of problems as does probit regression using similar techniques.

Simple logistic regression analysis refers to the regression application with one dichotomous outcome and one independent variable; multiple logistic regression analysis applies when there is a single dichotomous outcome and more than one independent variable.