

The DISCRIM Procedure

| | | | |
|--------------------------|-----|---------------------------|-----|
| Total Sample Size | 150 | DF Total | 149 |
| Variables | 4 | DF Within Classes | 147 |
| Classes | 3 | DF Between Classes | 2 |

| | |
|------------------------------------|-----|
| Number of Observations Read | 150 |
| Number of Observations Used | 150 |

| Class Level Information | | | | | |
|-------------------------|---------------|-----------|---------|------------|-------------------|
| Species | Variable Name | Frequency | Weight | Proportion | Prior Probability |
| Setosa | Setosa | 50 | 50.0000 | 0.333333 | 0.333333 |
| Versicolor | Versicolor | 50 | 50.0000 | 0.333333 | 0.333333 |
| Virginica | Virginica | 50 | 50.0000 | 0.333333 | 0.333333 |

| Pooled Covariance Matrix Information | |
|--------------------------------------|---|
| Covariance Matrix Rank | Natural Log of the Determinant of the Covariance Matrix |
| 4 | 8.46214 |

The DISCRIM Procedure

| Generalized Squared Distance to Species | | | |
|---|-----------|------------|-----------|
| From Species | Setosa | Versicolor | Virginica |
| Setosa | 0 | 89.86419 | 179.38471 |
| Versicolor | 89.86419 | 0 | 17.20107 |
| Virginica | 179.38471 | 17.20107 | 0 |

The DISCRIM Procedure

| Univariate Test Statistics | | | | | | | | |
|------------------------------------|-------------------|--------------------------|---------------------------|----------------------------|----------|--------------------|---------|--------|
| F Statistics, Num DF=2, Den DF=147 | | | | | | | | |
| Variable | Label | Total Standard Deviation | Pooled Standard Deviation | Between Standard Deviation | R-Square | R-Square / (1-RSq) | F Value | Pr > F |
| SepalLength | Sepal Length (mm) | 8.2807 | 5.1479 | 7.9506 | 0.6187 | 1.6226 | 119.26 | <.0001 |
| SepalWidth | Sepal Width (mm) | 4.3587 | 3.3969 | 3.3682 | 0.4008 | 0.6688 | 49.16 | <.0001 |
| PetalLength | Petal Length (mm) | 17.6530 | 4.3033 | 20.9070 | 0.9414 | 16.0566 | 1180.16 | <.0001 |
| PetalWidth | Petal Width (mm) | 7.6224 | 2.0465 | 8.9673 | 0.9289 | 13.0613 | 960.01 | <.0001 |

| Average R-Square | |
|-----------------------------|-----------|
| Unweighted | 0.7224358 |
| Weighted by Variance | 0.8689444 |

| Multivariate Statistics and F Approximations | | | | | |
|---|-------------|---------|--------|--------|--------|
| S=2 M=0.5 N=71 | | | | | |
| Statistic | Value | F Value | Num DF | Den DF | Pr > F |
| Wilks' Lambda | 0.02343863 | 199.15 | 8 | 288 | <.0001 |
| Pillai's Trace | 1.19189883 | 53.47 | 8 | 290 | <.0001 |
| Hotelling-Lawley Trace | 32.47732024 | 582.20 | 8 | 203.4 | <.0001 |
| Roy's Greatest Root | 32.19192920 | 1166.96 | 4 | 145 | <.0001 |
| NOTE: F Statistic for Roy's Greatest Root is an upper bound. | | | | | |
| NOTE: F Statistic for Wilks' Lambda is exact. | | | | | |

| Linear Discriminant Function for Species | | | | |
|--|-------------------|-----------|------------|------------|
| Variable | Label | Setosa | Versicolor | Virginica |
| Constant | | -85.20986 | -71.75400 | -103.26971 |
| SepalLength | Sepal Length (mm) | 2.35442 | 1.56982 | 1.24458 |
| SepalWidth | Sepal Width (mm) | 2.35879 | 0.70725 | 0.36853 |
| PetalLength | Petal Length (mm) | -1.64306 | 0.52115 | 1.27665 |
| PetalWidth | Petal Width (mm) | -1.73984 | 0.64342 | 2.10791 |

The DISCRIM Procedure
Classification Results for Calibration Data: SASHELP.IRIS
Resubstitution Results using Linear Discriminant Function

| Posterior Probability of Membership in Species | | | | | | |
|--|--------------|-------------------------|---|--------|------------|-----------|
| Obs | From Species | Classified into Species | | Setosa | Versicolor | Virginica |
| 53 | Versicolor | Virginica | * | 0.0000 | 0.2532 | 0.7468 |
| 55 | Versicolor | Virginica | * | 0.0000 | 0.1434 | 0.8566 |
| 103 | Virginica | Versicolor | * | 0.0000 | 0.7294 | 0.2706 |

* Misclassified observation

The DISCRIM Procedure
Classification Summary for Calibration Data: SASHELP.IRIS
Resubstitution Summary using Linear Discriminant Function

| Number of Observations and Percent Classified into Species | | | | |
|--|--------------|-------------|-------------|---------------|
| From Species | Setosa | Versicolor | Virginica | Total |
| Setosa | 50 100.00 | 0 0.00 | 0 0.00 | 50 100.00 |
| Versicolor | 0 0.00 | 48 96.00 | 2 4.00 | 50 100.00 |
| Virginica | 0 0.00 | 1 2.00 | 49 98.00 | 50 100.00 |
| Total | 50 33.33 | 49 32.67 | 51 34.00 | 150 100.00 |
| Priors | 0.33333 | 0.33333 | 0.33333 | |

| Error Count Estimates for Species | | | | |
|-----------------------------------|--------|------------|-----------|--------|
| | Setosa | Versicolor | Virginica | Total |
| Rate | 0.0000 | 0.0400 | 0.0200 | 0.0200 |
| Priors | 0.3333 | 0.3333 | 0.3333 | |

The DISCRIM Procedure
Classification Results for Calibration Data: SASHELP.IRIS
Cross-validation Results using Linear Discriminant Function

| Posterior Probability of Membership in Species | | | | | | |
|--|--------------|-------------------------|---|--------|------------|-----------|
| Obs | From Species | Classified into Species | | Setosa | Versicolor | Virginica |
| 53 | Versicolor | Virginica | * | 0.0000 | 0.1773 | 0.8227 |
| 55 | Versicolor | Virginica | * | 0.0000 | 0.0992 | 0.9008 |
| 103 | Virginica | Versicolor | * | 0.0000 | 0.7876 | 0.2124 |

* Misclassified observation

The DISCRIM Procedure
Classification Summary for Calibration Data: SASHELP.IRIS
Cross-validation Summary using Linear Discriminant Function

| Number of Observations and Percent Classified into Species | | | | |
|--|--------------|-------------|-------------|---------------|
| From Species | Setosa | Versicolor | Virginica | Total |
| Setosa | 50 100.00 | 0 0.00 | 0 0.00 | 50 100.00 |
| Versicolor | 0 0.00 | 48 96.00 | 2 4.00 | 50 100.00 |
| Virginica | 0 0.00 | 1 2.00 | 49 98.00 | 50 100.00 |
| Total | 50 33.33 | 49 32.67 | 51 34.00 | 150 100.00 |
| Priors | 0.33333 | 0.33333 | 0.33333 | |

| Error Count Estimates for Species | | | | |
|-----------------------------------|--------|------------|-----------|--------|
| | Setosa | Versicolor | Virginica | Total |
| Rate | 0.0000 | 0.0400 | 0.0200 | 0.0200 |
| Priors | 0.3333 | 0.3333 | 0.3333 | |