

Develop a model using linear discriminant analysis for the Yamaguchi School of Business. The model should be able to predict whether a student will be successful or unsuccessful, based on his written test score, group discussion score, and interview score. Explain the decision rule to be used for classifying a student as potentially successful or unsuccessful.

What is the classification accuracy of the model? Which of the three scores is the best predictor of a student's future success?

9. Think of how a discriminant analysis model can be built by a sales manager to decide which of his salespeople he should give a promotion to. What variables can be used as predictors of a good future performance?
10. Consider how the technique of discriminant analysis can be used to predict whether a person whose demographics are known would be a buyer or a non-buyer of a given brand or product. Try and suggest the demographic variables which could be predictors for a given product, say, a washing machine.



## SPSS Commands for Discriminant Analysis (Chapter 11)

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After the input data has been typed along with variable labels and value labels in an SPSS file, to get the output for a **Discriminant Analysis** problem similar to that described in the text,

1. click on ANALYZE at the SPSS menu bar (in older versions of SPSS, click on STATISTICS instead of ANALYZE).
2. click on CLASSIFY, followed by DISCRIMINANT.
3. on the dialogue box which appears, select the GROUPING VARIABLE (dependent categorical variable in discriminant analysis) by clicking on the right arrow to transfer it from the variable list on the left to the grouping variable box on the right.
4. define the range of values of the grouping variable by clicking on DEFINE RANGE just below the grouping variable box. Fill in the minimum and maximum values (the codes used in your problem, say 1 and 2) of the variable in the box which appears. Then click CONTINUE.
5. select all the independent variables for discriminant analysis from the variable list by clicking on the arrow which transfers them to the INDEPENDENTS box on the right.
6. just below the INDEPENDENTS box select "Enter independents together" if you want all selected independent variables (that are in the box) in the discriminant model. (Here you have an option to use STEPWISE discriminant analysis by selecting 'Use Stepwise Method' instead of 'enter independents together').
7. click on STATISTICS on the lower part of the main dialogue box. This opens up a smaller dialogue box. On this, under the title FUNCTION COEFFICIENTS, choose UNSTANDARDISED to obtain the unstandardised coefficients of the discriminant function. These are used to classify