

SNS COLLEGE OF TECHNOLOGY

Coimbatore-35.

An Autonomous Institution

COURSE NAME : DATA ANALYTICS

II YEAR/ IV SEMESTER

UNIT – II Getting Insights from Data

Topic: *Univariate Analysis*

Dr.K.Sangeetha

HoD

Department of Computer Science and Engineering

Descriptive Multivariate Analysis

- ❖ **Multivariate analysis** - analysis of a data set which explores more than two attributes.

- ❖ **Four types are :**
 1. Multivariate Frequencies

 2. Multivariate Data Visualization

 3. Multivariate Statistics

 4. Infographics and Word Clouds

Descriptive Multivariate Analysis

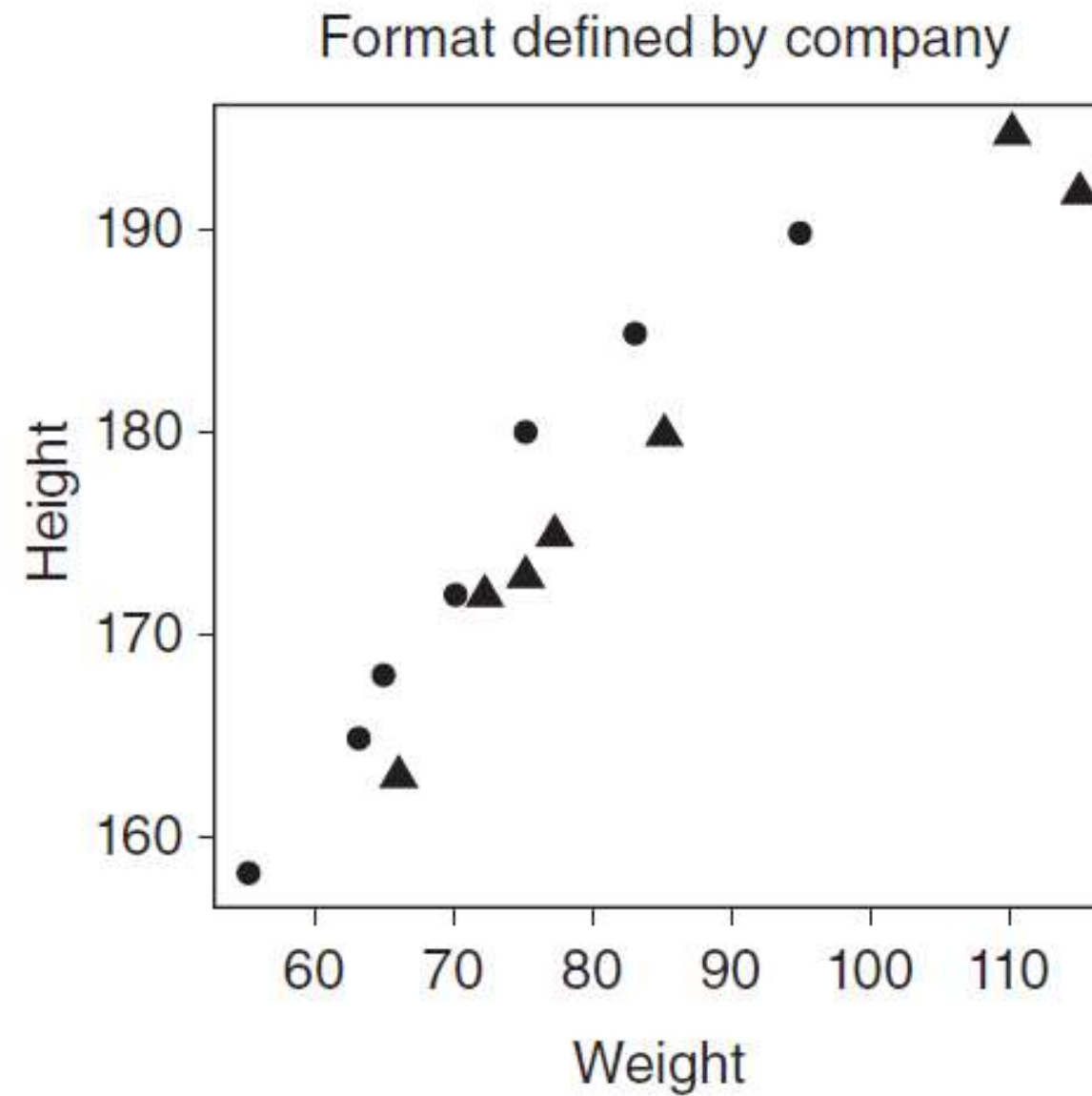
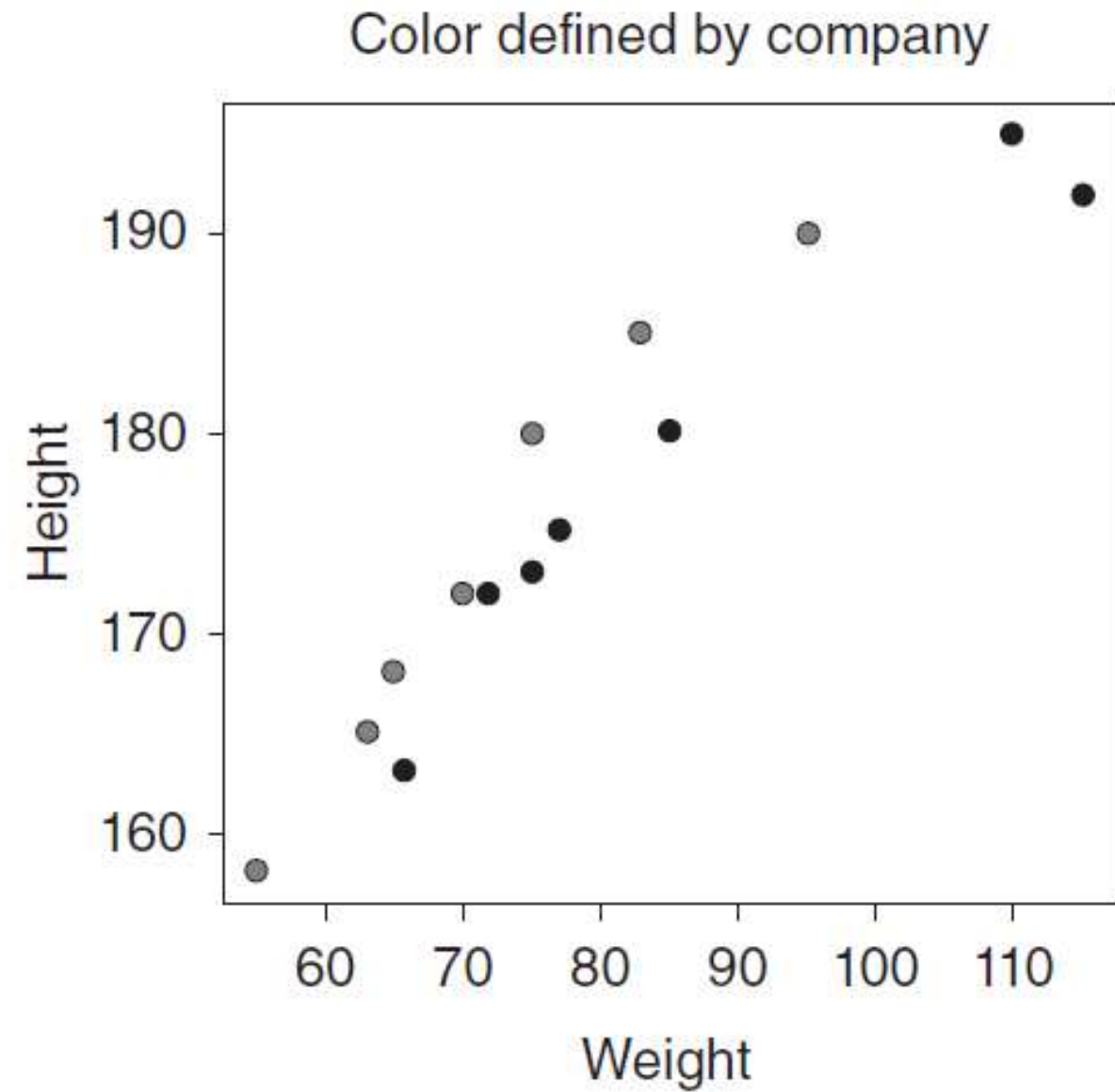
1. Multivariate Frequencies

- ❖ Computed independently for each attribute

- ❖ For each attribute, the following frequency measures can be taken:
 - absolute frequency
 - relative frequency
 - absolute cumulative frequency
 - relative cumulative frequency

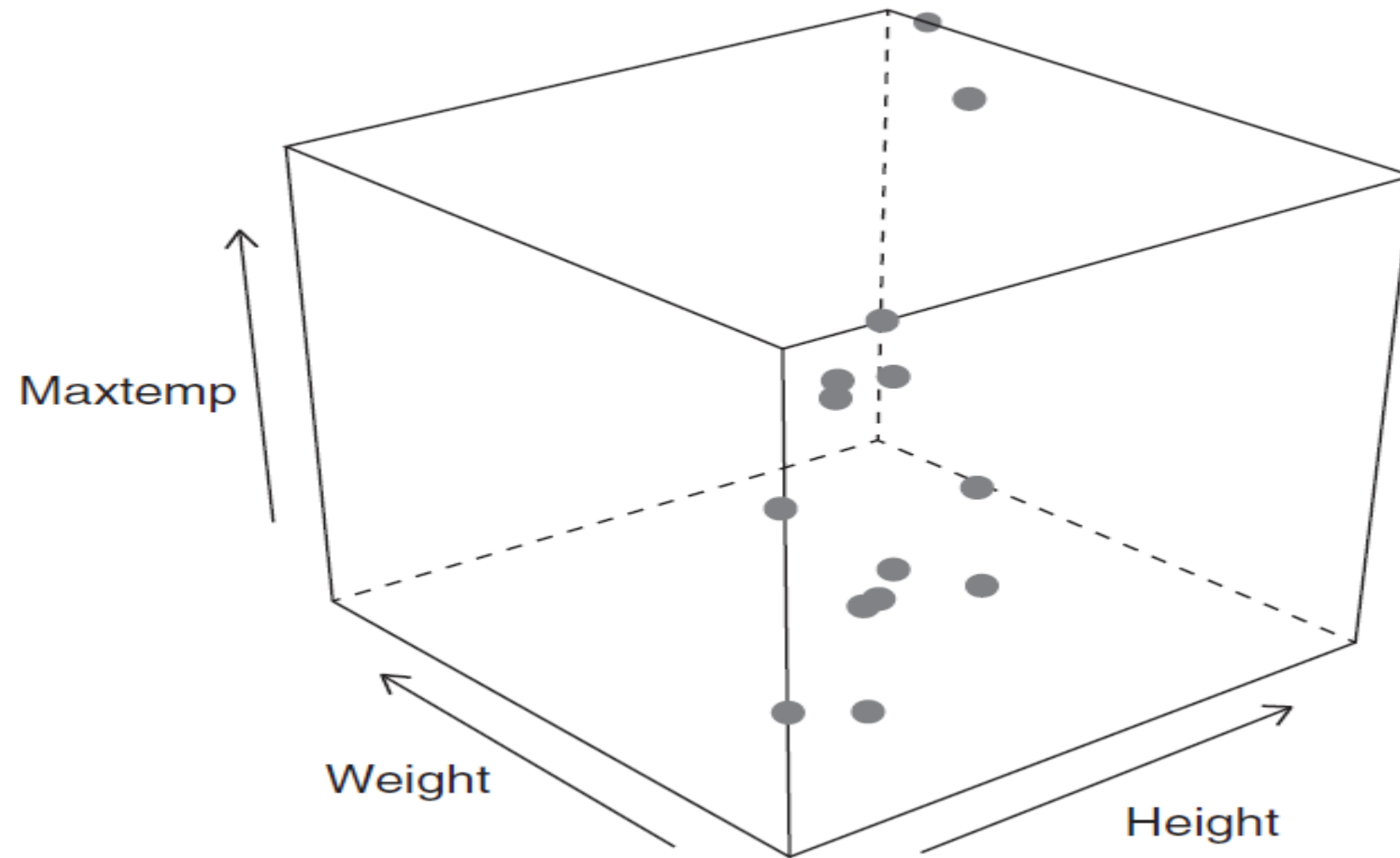
Descriptive Multivariate Analysis

2. Multivariate Data Visualization



Descriptive Multivariate Analysis

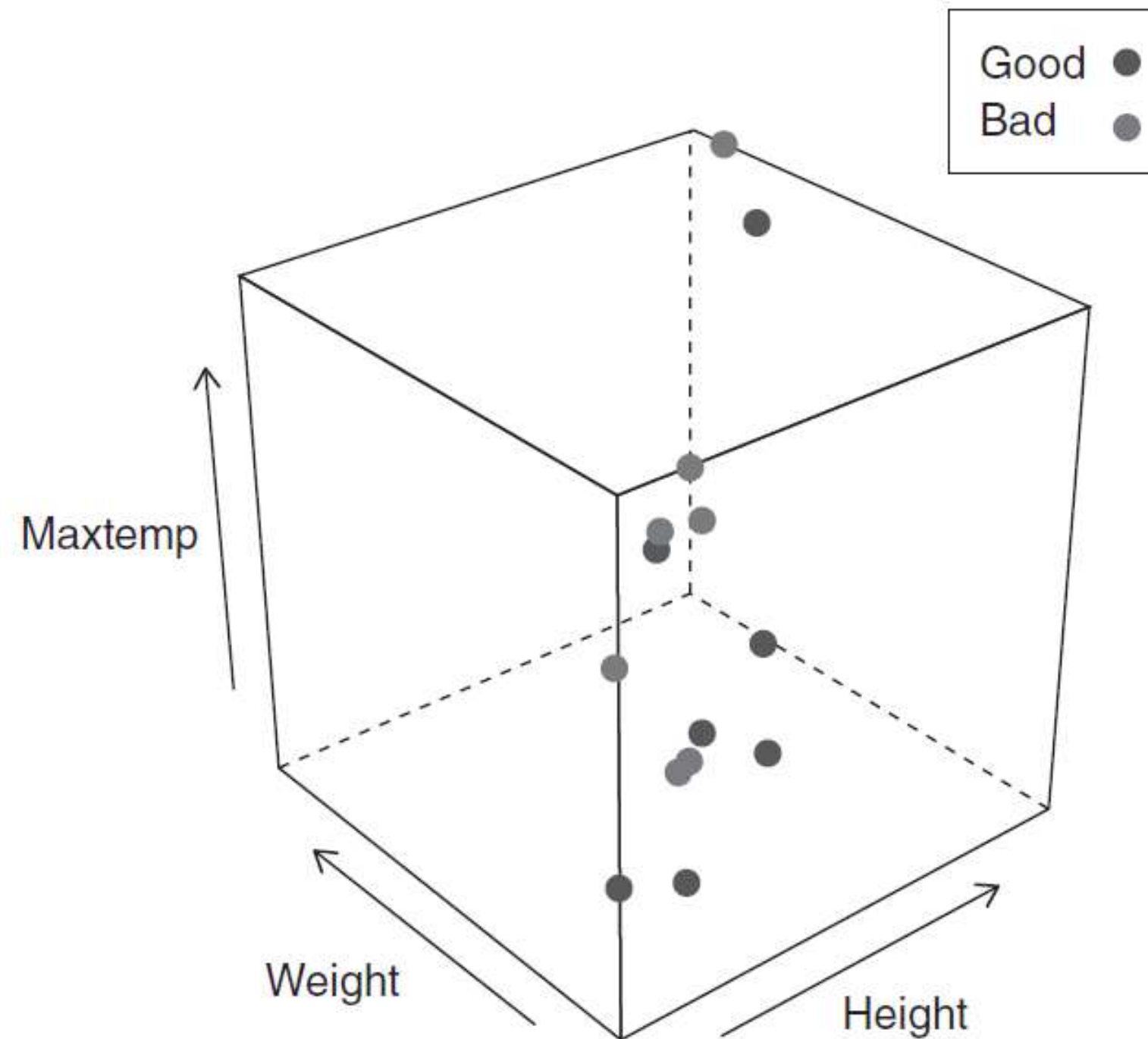
2. Multivariate Data Visualization



Descriptive Multivariate Analysis

2. Multivariate Data Visualization

Figure Plot for four attributes of the friends data set using color for the fourth attribute.



Descriptive Multivariate Analysis

2. Multivariate Data Visualization

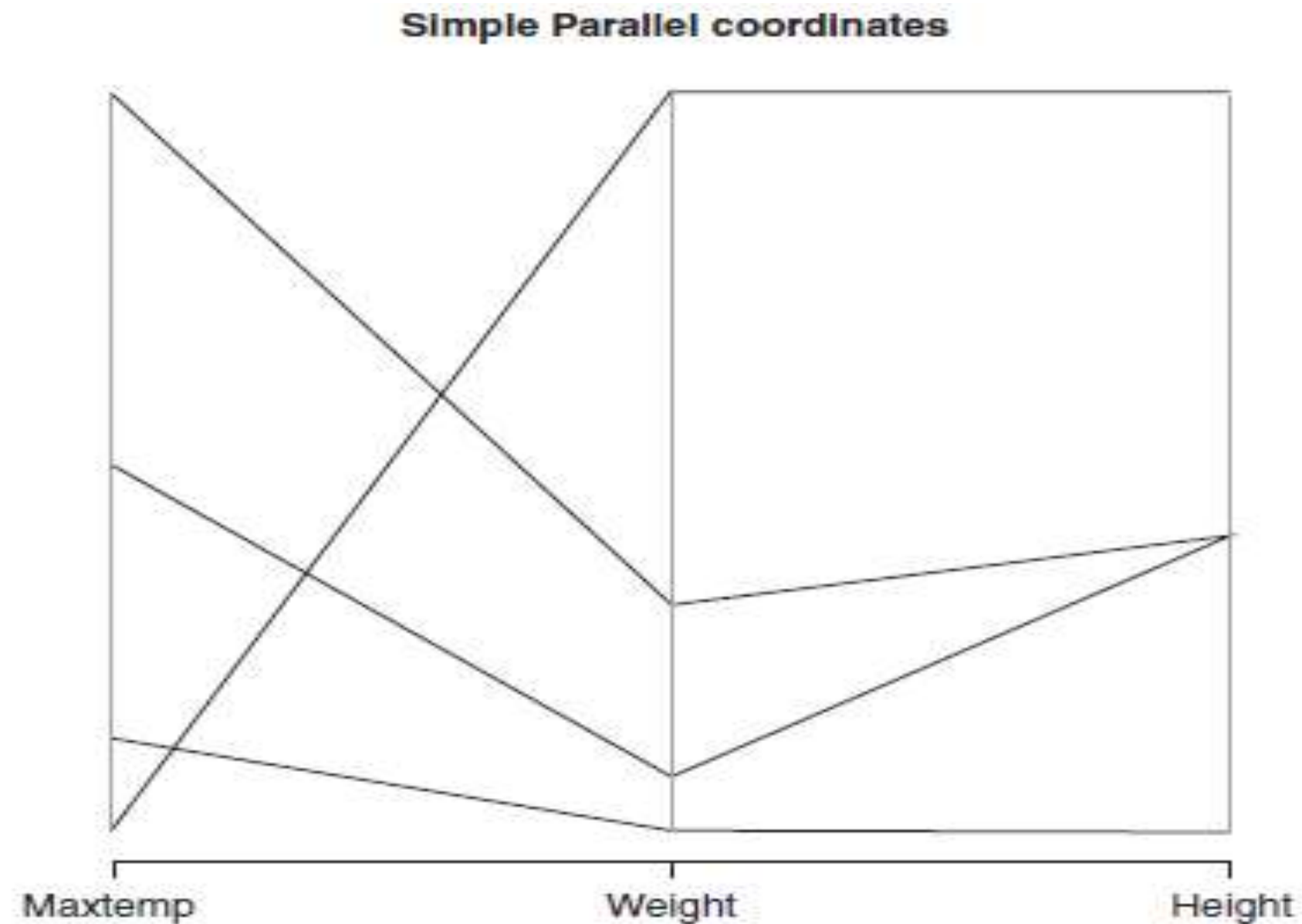


Figure 3.5 Parallel coordinate plot for three attributes.

Descriptive Multivariate Analysis

2. Multivariate Data Visualization

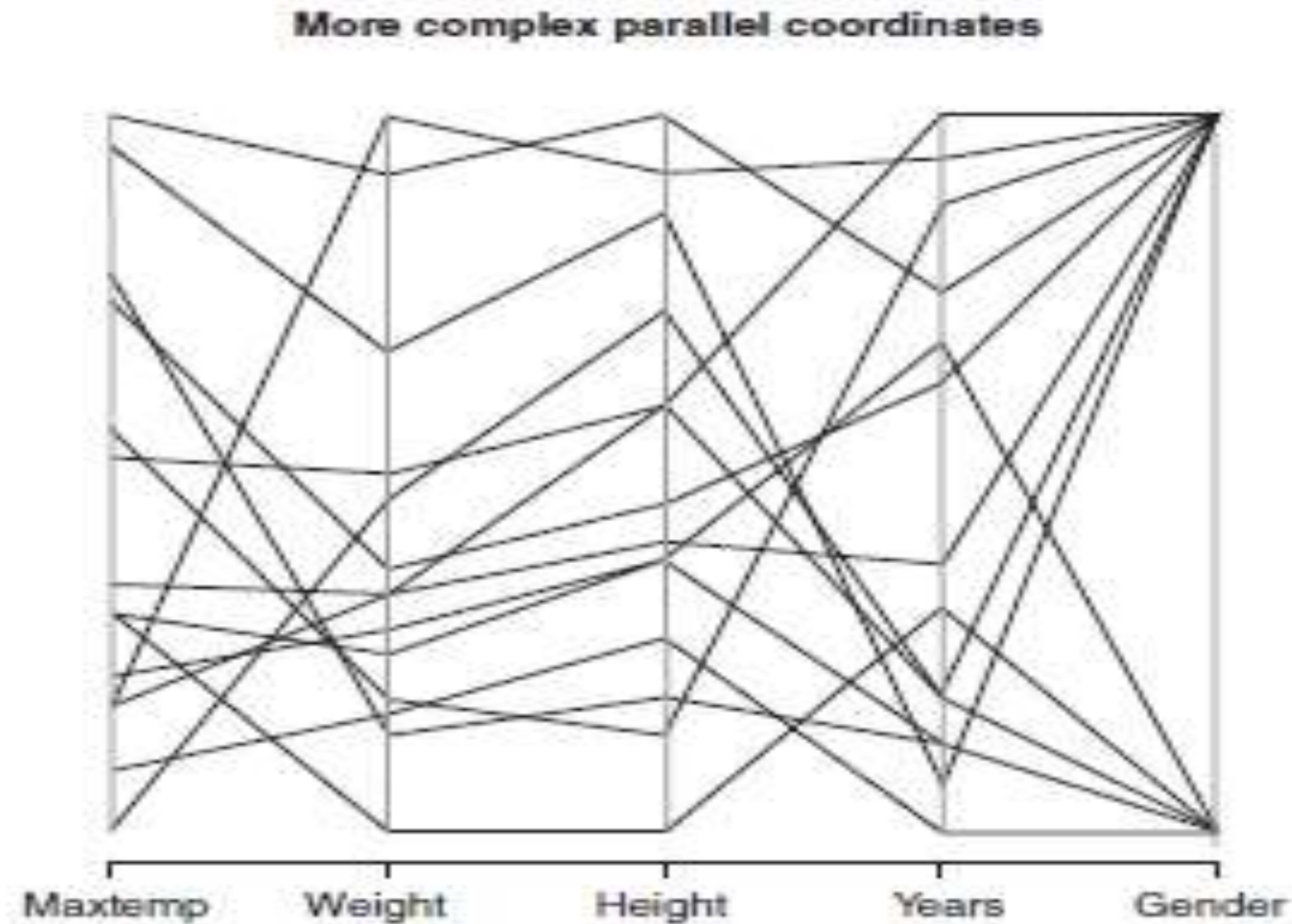
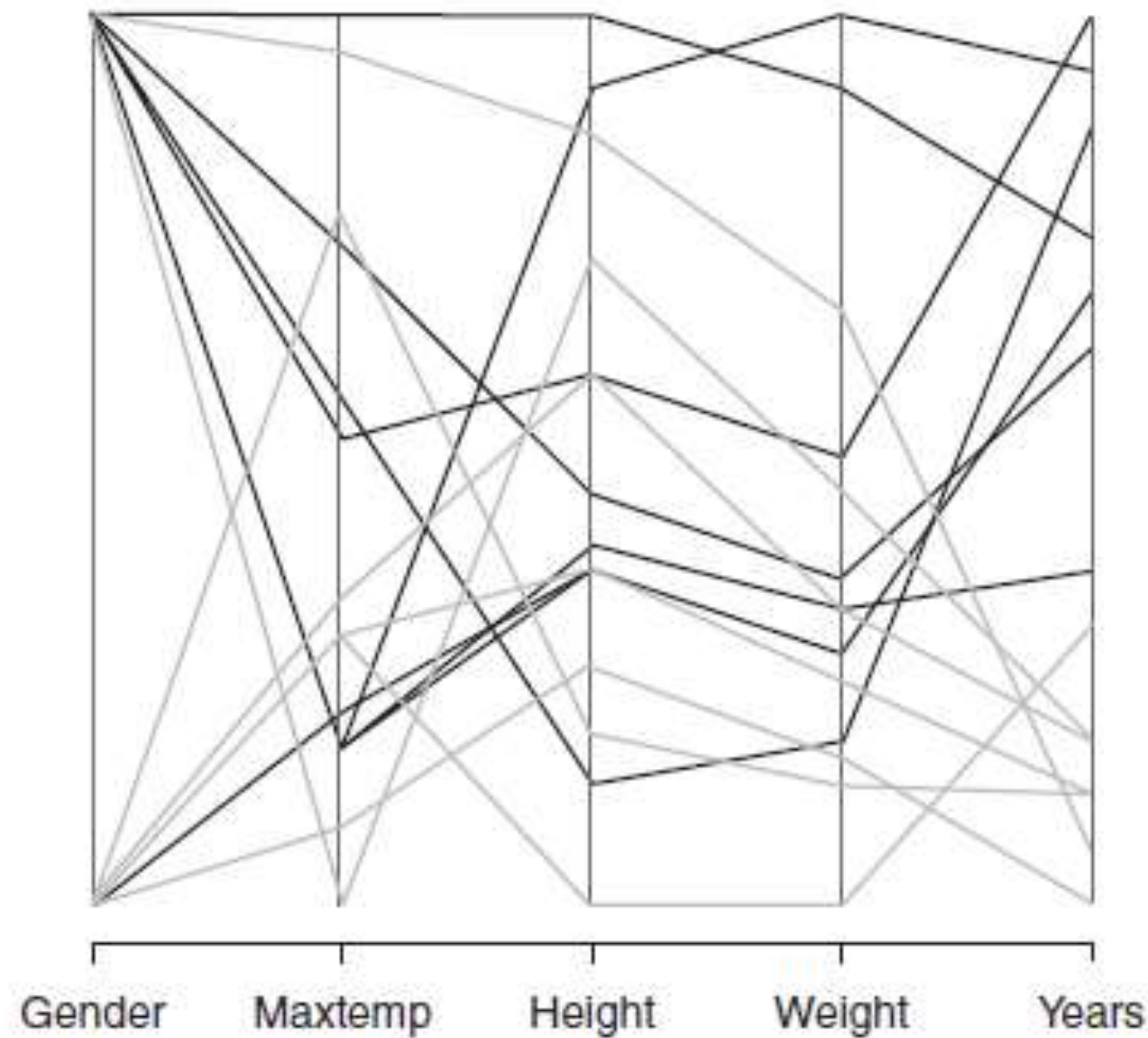


Figure 3.6 Parallel coordinate plot for five attributes.

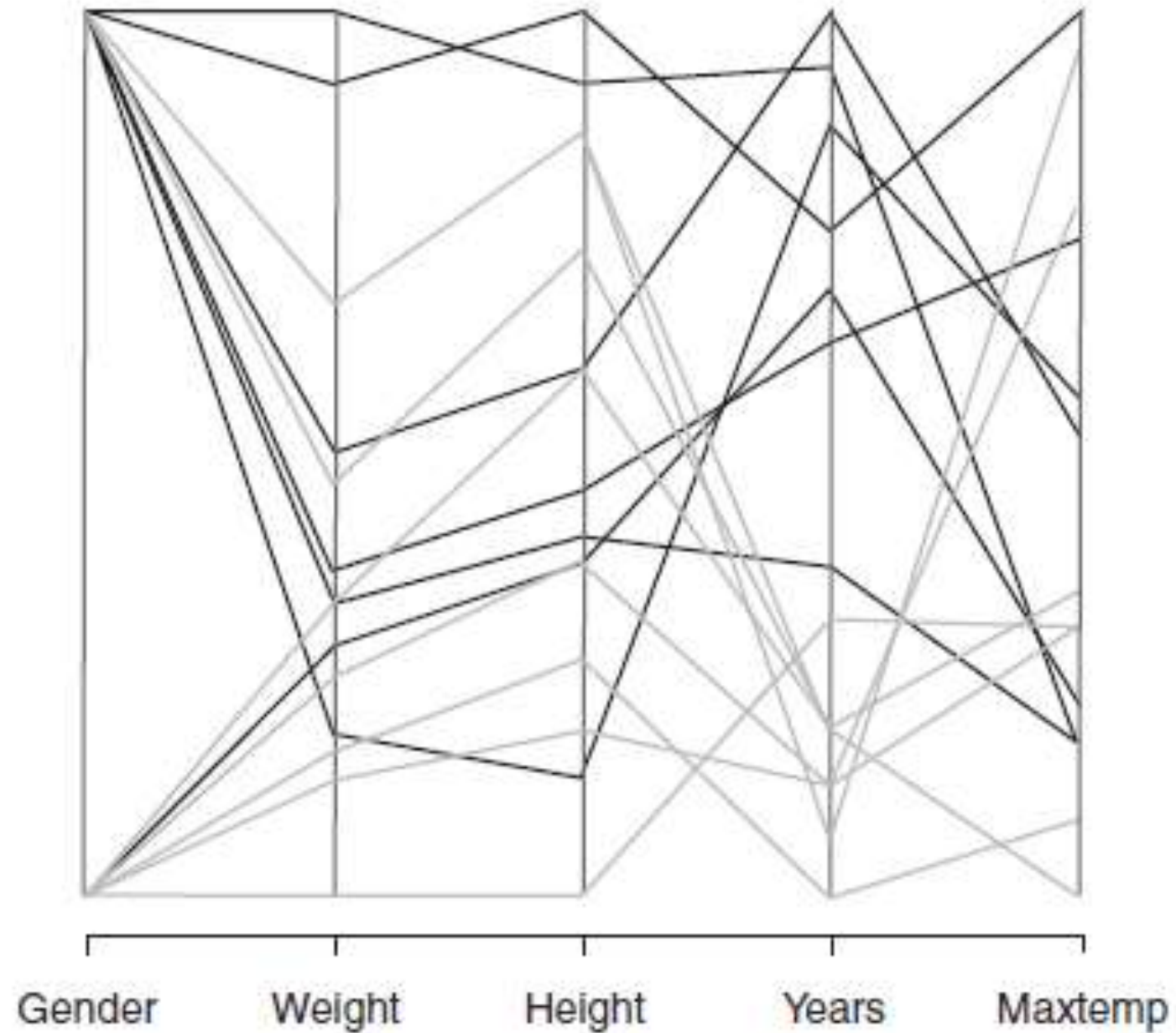
Descriptive Multivariate Analysis

2. Multivariate Data Visualization

Parallel coordinates with colors



Parallel coordinates re-ordering variables



Descriptive Multivariate Analysis

3. Multivariate Statistics

- ❖ Multivariate statistics are a simple extension of the univariate statistics

Assessment 1

1. What is **Univariate Data visualization**?

Ans : _____

2. What is **Descriptive Bivariate Analysis** ?

Ans : _____



References

TEXT BOOKS

1. Joao Moreira, Andre Carvalho, Tomás Horvath – “A General Introduction to Data Analytics”
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- 2 Provost F and Fawcett T, —Data Science for Business, O‘Reilly Media Inc, 2013.
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- 4 Weiss SM, Indurkha N and Zhang T, —Fundamentals of Predictive Text Mining, Springer-Verlag London Limited, 2010.
5. Runkler T A, - Data Analytics: Models and Algorithms for Intelligent data analysis, Springer, 2012