

STAT2361

ملاحظات المحاضرات

من إعداد موقع

BZU-HUB



Chapter 1

ملاحظة: المحاضرات من شرح الدكتور محمد مضية

Chapter One: Concepts and Definitions

- Data: Information

- Statistics: Science (Methods) used to

collect, Organize, analyze, and Interpret
تفسير

DATA

←
Row
Data

- Elements

Variables = Questions

Gender, Age, Major, Price, Demand...



- Population: The set of all elements in a Particular Study.

↳ Target population
list, FRAME

For example

→ BZU Students

- Study population: Census → التعداد الشامل
cost ←
time ←

- Sample: A subset of the population → Survey
chapter (7)

- Data Set: All Data Collected in a Particular Study.

- Observation: All Data Collected for a particular element.

* Example :-

Data Set

	Gender	Major	Age	Average
Ahmad:	M	Business	22	83
Sara:	F	CS	19	80

Observation

2

of observations = # of elements

• Sources of Data :

- 1 Secondary Data
- 2 Primary Data → Collect

• Types of Variables (DATA):

1 Quantitative (Numerical) → Number

2 Qualitative (Categorical)

Types, groups, Classes...

• Types of Data (Time)

1 Time Series Data: # of BZU Students in years
2013, 2014 .. 2023

2 Cross-Sectional Data: Specific period of time



● Types of Statistics

I] Descriptive Statistics: الإحصاء الوصفى

PAST ← collect (Raw) → Organize

* Methods Used to organize (Summarize) DATA

- Tabular (Table) Chapter 2
- Graphical (graph) Chapter 2
- Numerical (Number) Chapter 3



II] Inferential Statistics (Future)

الإحصاء الاستنتاجي

Chapter
7, 8, 9

How to use sample results to
make conclusion(s) about population.

* Probability → Chapter 4, 5, 6

● Scales (Levels) of Measurements

1] Nominal (Name)

Qualitative Data (No order)
Gender, Major ...

2] Ordinal

Qualitative + Order (Rank)
Evaluation: Excellent, Very good, Good, Poor.
Letter Grades: A, B, C ...

3] Interval

Numerical Data + The Difference

Between two values has a meaning

4] Ratio



LEVELS OF MEASUREMENT

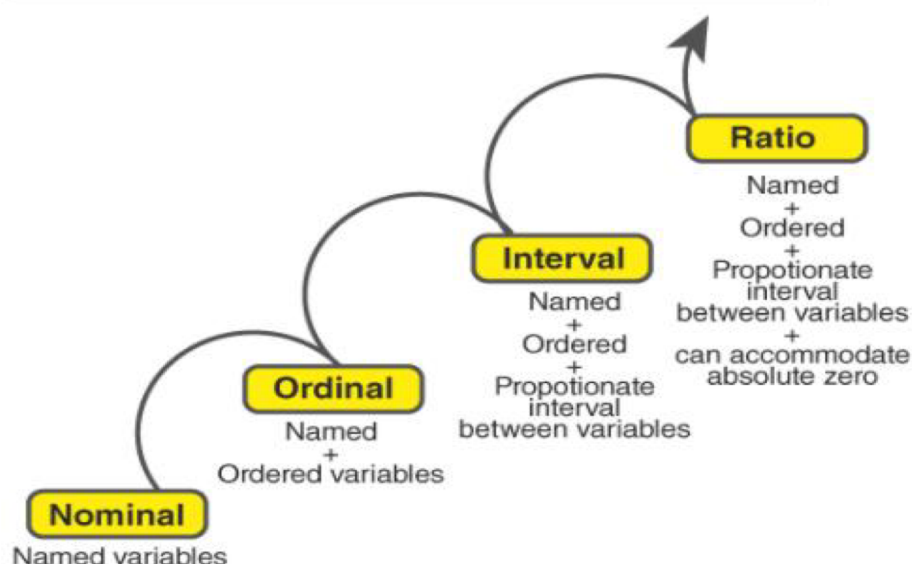


TABLE 1.7 A SAMPLE OF 10 MINISYSTEMS

Brand and Model	Price (\$)	Sound Quality	CD Capacity	FM Tuning	Tape Decks
Aiwa NSX-AJ800	250	Good	3	Fair	<u>2</u>
JVC FS-SD1000	500	Good	1	<u>Very Good</u>	0
JVC MX-G50	200	Very Good	3	<u>Excellent</u>	<u>2</u>
Panasonic SC-PM11	170	Fair	5	<u>Very Good</u>	1
RCA RS 1283	170	Good	3	Poor	0
Sharp CD-BA2600	150	Good	3	Good	<u>2</u>
Sony CHC-CL1	300	Very Good	3	<u>Very Good</u>	1
Sony MHC-NX1	500	Good	5	<u>Excellent</u>	<u>2</u>
Yamaha GX-505	400	Very Good	3	<u>Excellent</u>	1
Yamaha MCR-E100	500	Very Good	1	<u>Excellent</u>	0

Qn.

QL

Qn.

QL

Qn.

5. Consider the data set for the sample of 10 minisystems in Table 1.7.
 - a. How many variables are in the data set? 5
 - b. Which of the variables are quantitative and which are qualitative?
 - c. What is the average CD capacity for the sample? 3
 - d. What percentage of the minisystems provides an FM tuning rating of very good or excellent? 7 ÷ 10
 - e. What percentage of the minisystems includes two tape decks? 8 ÷ 10

