



SIXTEENTH EDITION

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Introduction to **INFORMATION SYSTEMS**

Chapter

1

Foundations of Information Systems in Business

Chapter

1

Data and Information

Objectives

- To Understand What Is DATA
- To Understand What Is INFORMATION
- To Differentiate Between DATA and INFORMATION

Data Versus Information

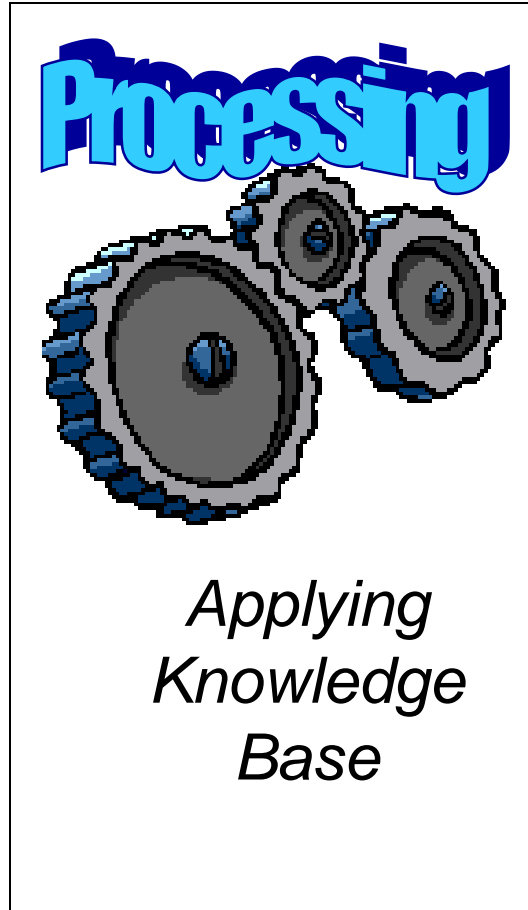
- **Data** are raw facts about physical phenomena or business transactions
- **Information** is data that has been converted into meaningful and useful context for end users
- Examples:
 - Sales data is names, quantities, and dollar amounts
 - Sales information is amount of sales by product type, sales territory, or salesperson

Data vs. Information

DATA

Raw Facts

- Hours Worked
- Pay Scale
- Overtime def
- Overtime Scale



INFO

Useful, valuable
and arranged
Facts:

- Total Paycheck

INFORMATION AS A KEY RESOURCE

- ***Data*** – raw facts
 - *06/01/1999 – a date*
- ***Information*** – data that have a particular meaning within a specific context
 - 06/01/1999 the date an automobile was sold

What is Data

- Facts, statistics used for reference or analysis.
- Numbers, characters, symbols, images, etc., which can be processed by a computer.
- Data must be interpreted, by a human or machine, to derive meaning.
- So data is meaningless

Data Examples

- Yes, Yes, No, Exactly, Nothing, Not, OK
- 400, 43, 50, 90, 10, 33, 56
- 1111500, 1112900
- None of the above data sets have any meaning until they are given a **CONTEXT** and **PROSSED** into a useable form.

MANY FORM OF DATA

- Alphanumeric data (Combination of Numbers and Letters)
- Text Data (Sentences and Paragraphs Used in Written Communication)
- Image Data (Graphics, Shapes, Figures etc.)
- Audio (Human Voice and other Sounds)
- Video?

What is Information?

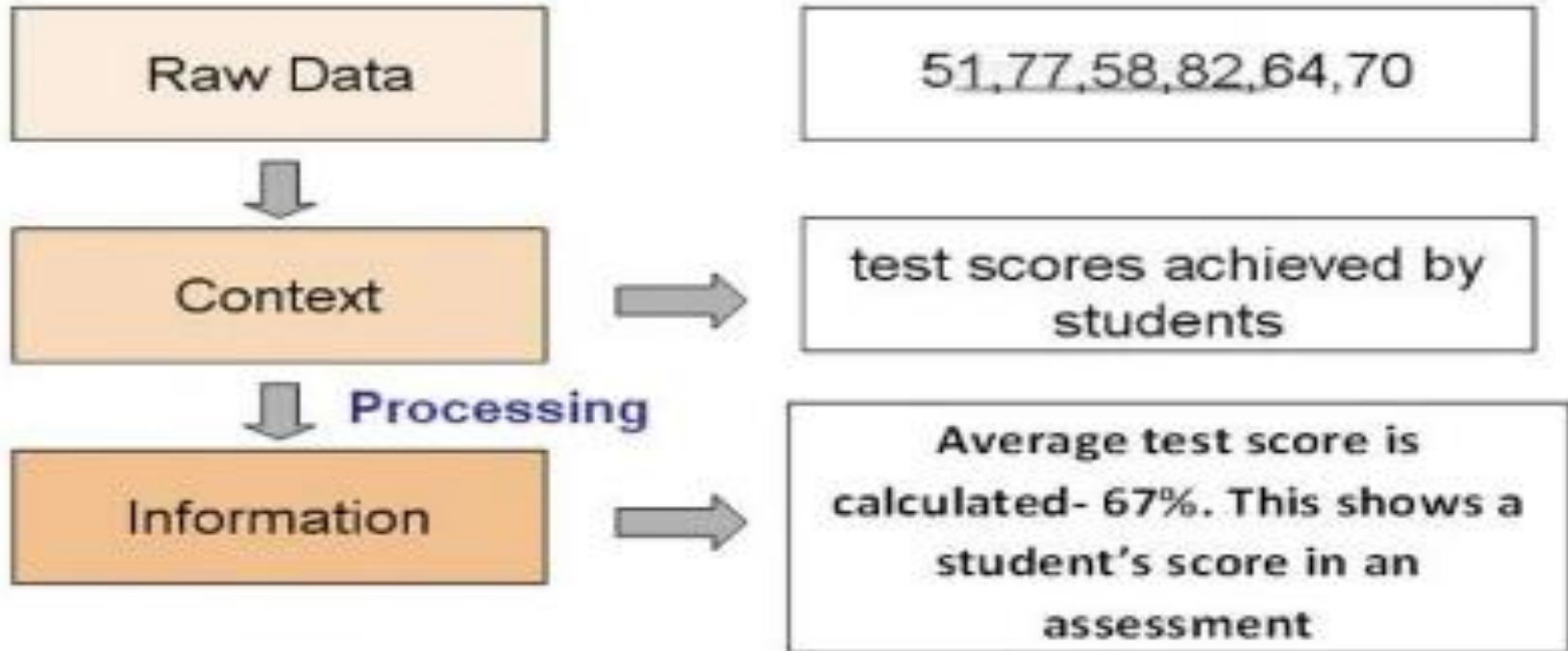
- Data that has been processed within a context to give it meaning.
- Information is data that has been processed.
- Information is interpreted data.
- Information is meaningful

Data Converted to Meaningful Information

- Data need to be converted into meaningful Information and Presented in its most useful format.
- For example: What does the number 9180000 mean?
 - Is it:
 - A birthday? (14th December, 1974)
 - A bank account number?
 - A telephone number?
- Without processing the data is meaningless.

Example 1

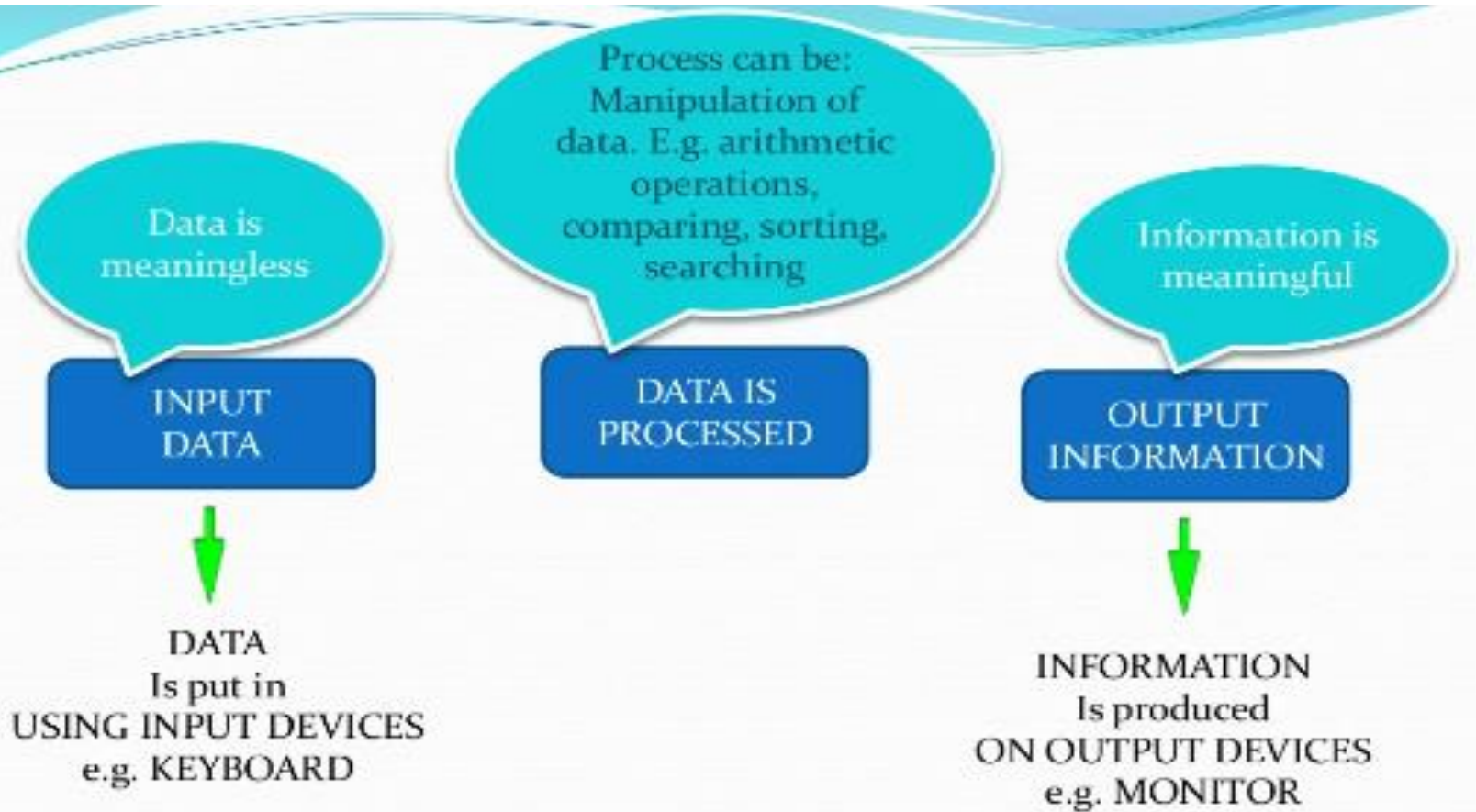
- Example Processing



Example 2

- The colored red is data as it has no meaning.
- What information we attach to the red color is information
- For example:
- On a traffic light it means STOP.
- In a football match a red card means that the player has been suspended.
- In certain places the red color may mean a danger zone.

Data Processing Example



Conclusion

In simple terms we can say that:

- Data is raw facts and figures and data is meaningless

While

- Information is data that has been processed
- Information is meaningful

Question

- In a factory, we use _____
as input to produce _____
which is the output.
- Choose between data or information
 - 95, 45, 90, 23, 40 _____
 - Stop signal from a traffic light _____
 - $\infty \div \alpha < > \ll \gg \leq \mp \Delta \exists$
 - A yellow card in a football match _____