

# HUM231 - Presentation Skills and Technical Writing

## Lecture 6 : Midterm Revision



# Technical Report

- **A scientific or Technical Report describes a research process or research and development results or the current state-of-the-art in a certain field of science or technology.**
- Technical Report = **report about technical subjects, written in the “language of science and technology”** (special terms and phrases, display rules etc.).



# Types of technical reports

| Technical Reports   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Report about laboratory experiments</li></ul>   | <ul style="list-style-type: none"><li>• Construction and design report</li></ul>                                 |
| <ul style="list-style-type: none"><li>• Article or report about research work in scientific journals</li></ul>  | <ul style="list-style-type: none"><li>• Project report, intermediate or final report etc.</li></ul>              |
| <ul style="list-style-type: none"><li>• Report about testing and measurements</li></ul>   | <ul style="list-style-type: none"><li>• Testing regulations</li></ul>  |
| <ul style="list-style-type: none"><li>• Report about internships</li></ul>  | <ul style="list-style-type: none"><li>• Work report</li></ul>  |
| <ul style="list-style-type: none"><li>• Various theses like project, diploma, magister, bachelor, and master thesis, doctorate thesis/dissertation, habilitation treatise</li></ul> | <ul style="list-style-type: none"><li>• Functional specifications and functional requirements</li></ul>          |
| <ul style="list-style-type: none"><li>• Business plan</li></ul>   | <ul style="list-style-type: none"><li>• Patent</li></ul>   |
| <ul style="list-style-type: none"><li>• Expertise</li></ul>   | <ul style="list-style-type: none"><li>functional description, user manual, software documentation etc.</li></ul> |

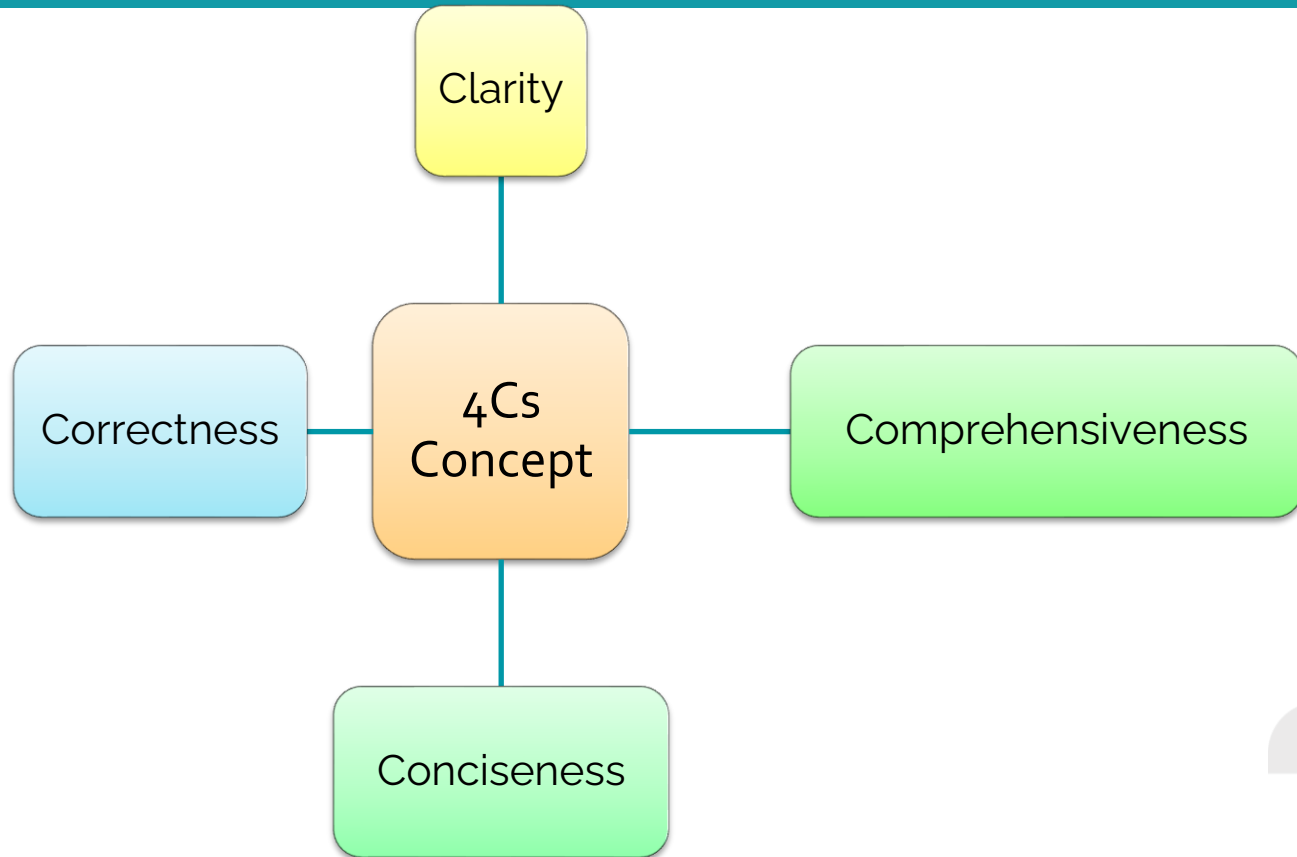
# Before you write.....

## **Before you write, ask yourself the following questions:**

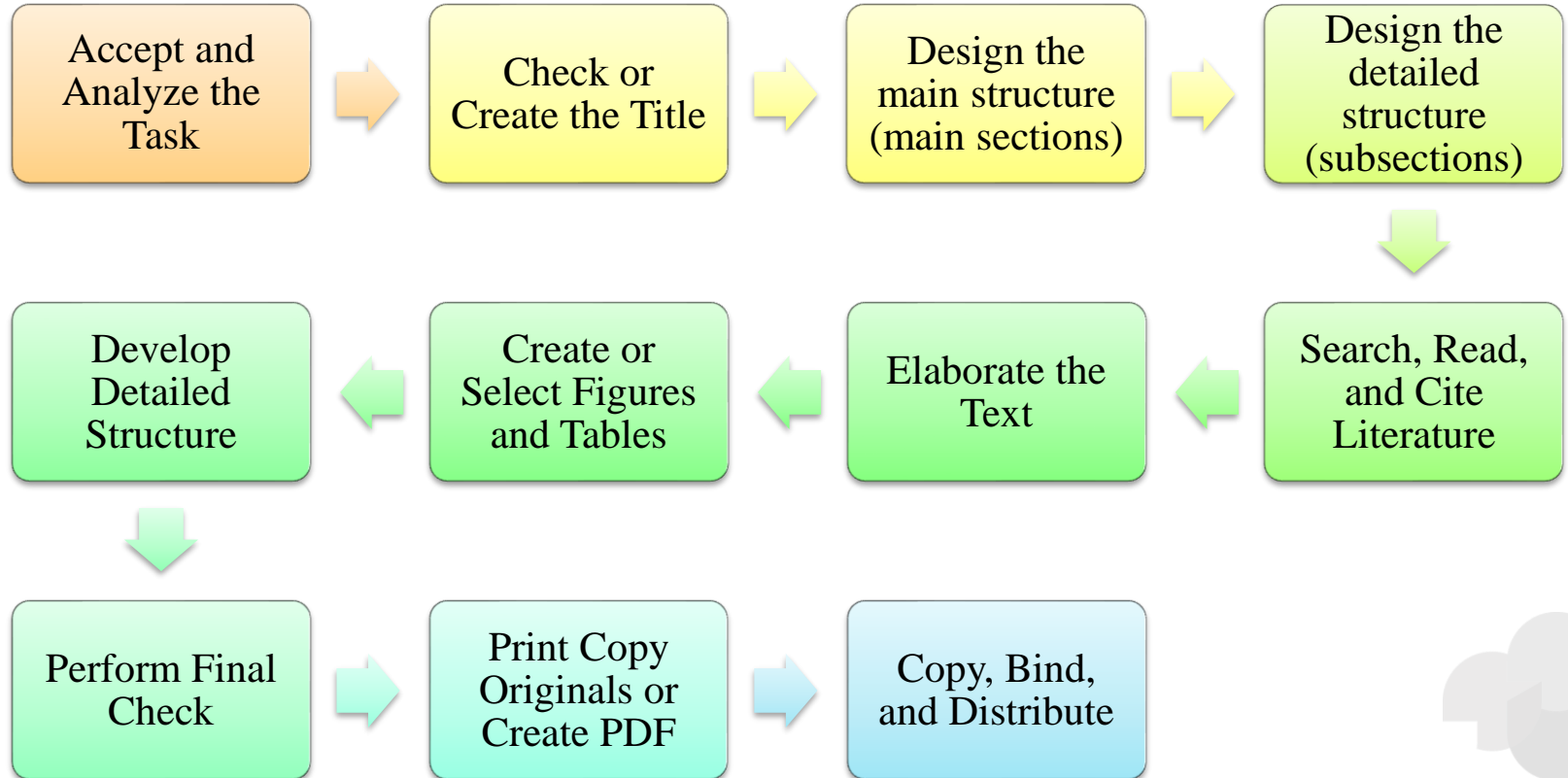
- Who are your readers?
- How is the technical report organized?
- Where are technical reports written?
- Who are your stakeholders?
- Why is the report written?



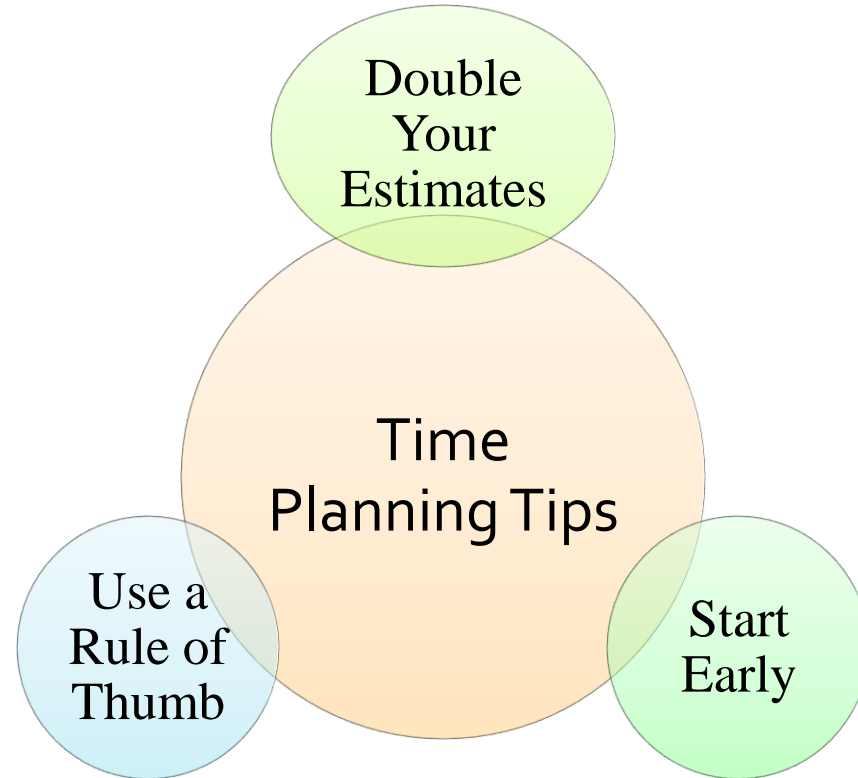
# Characteristics of Effective Technical Writing



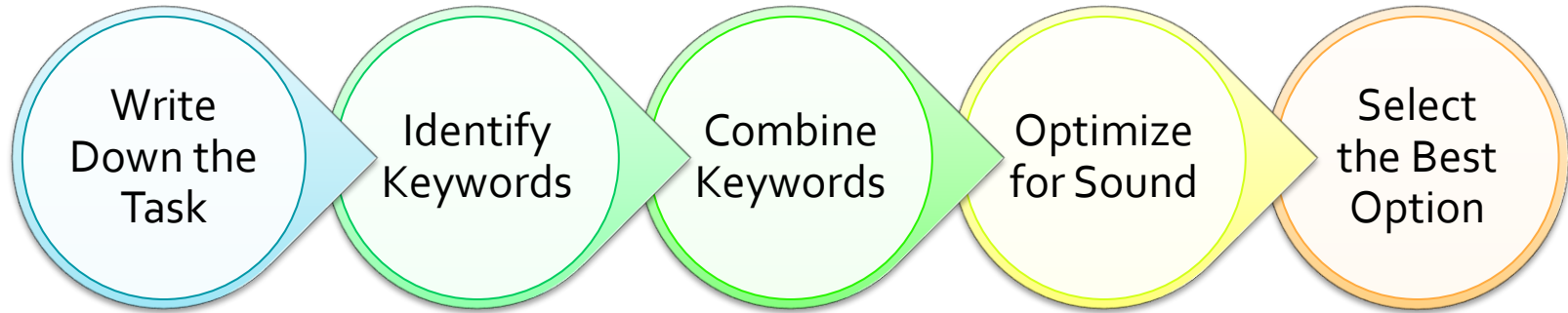
# Required Work Steps to Create Technical Reports



# Time Planning Tips



# Steps to Create a Title





# Importance of a Good Structure

Provides a quick overview of the report's contents.

Help the writer organize his thoughts

A tool for guiding the reader through complex content.

# Technical Report Parts

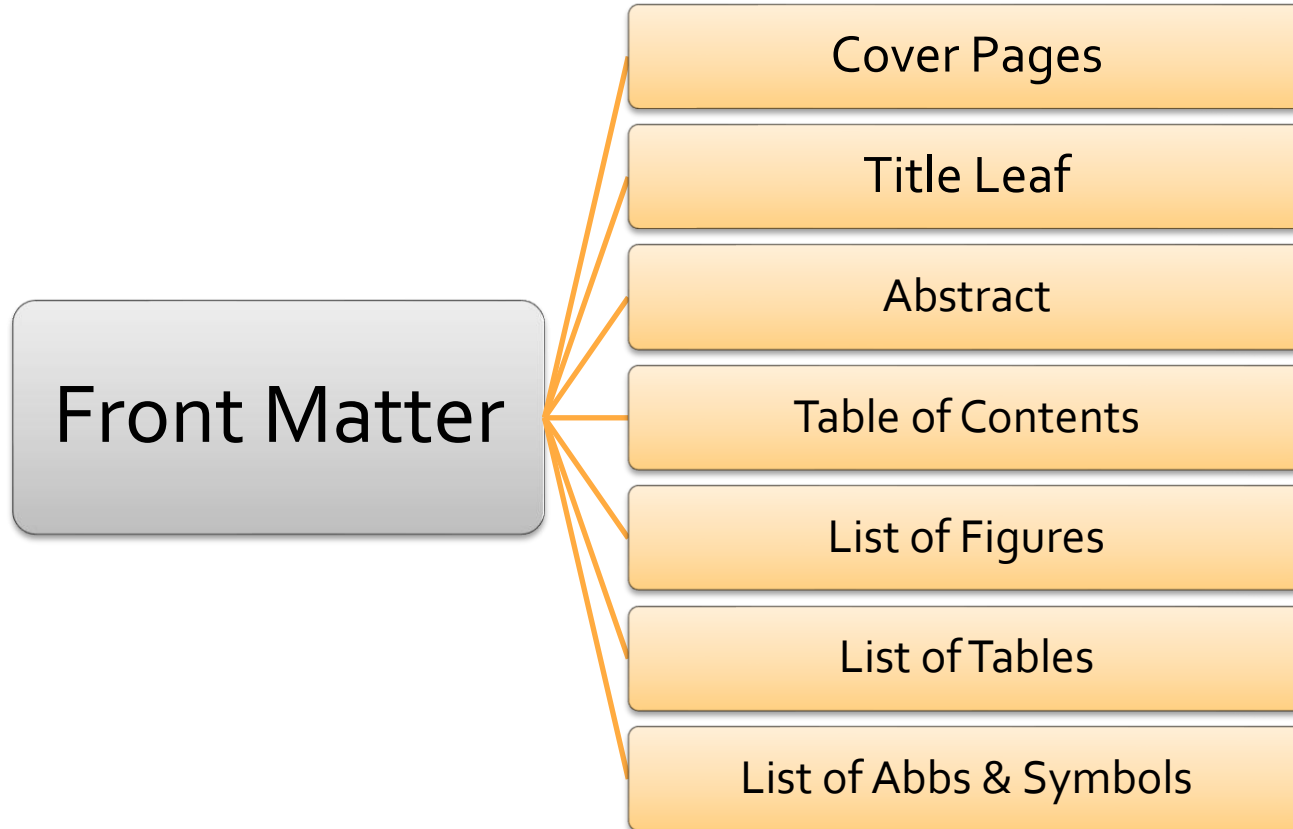
Front  
Matter

Main  
Body

Annexes

End  
Matter

# Front Matter



# Front Cover and Title Leaf: Common Mistakes



## **Design and Calculation 1**

**Report about the task:  
Automatic gear-switching for a  
Bicycle gear-box**

**WS 13/14**

**Mistaken Cover**

University for Applied Sciences Hannover  
Faculty II - Mechanical Engineering and  
Bio Process Engineering

## **Automatic gear-switching for a bicycle gear-box**

Design Report

J. Miller  
W. Michalsky  
M. Smith  
U. Swanson

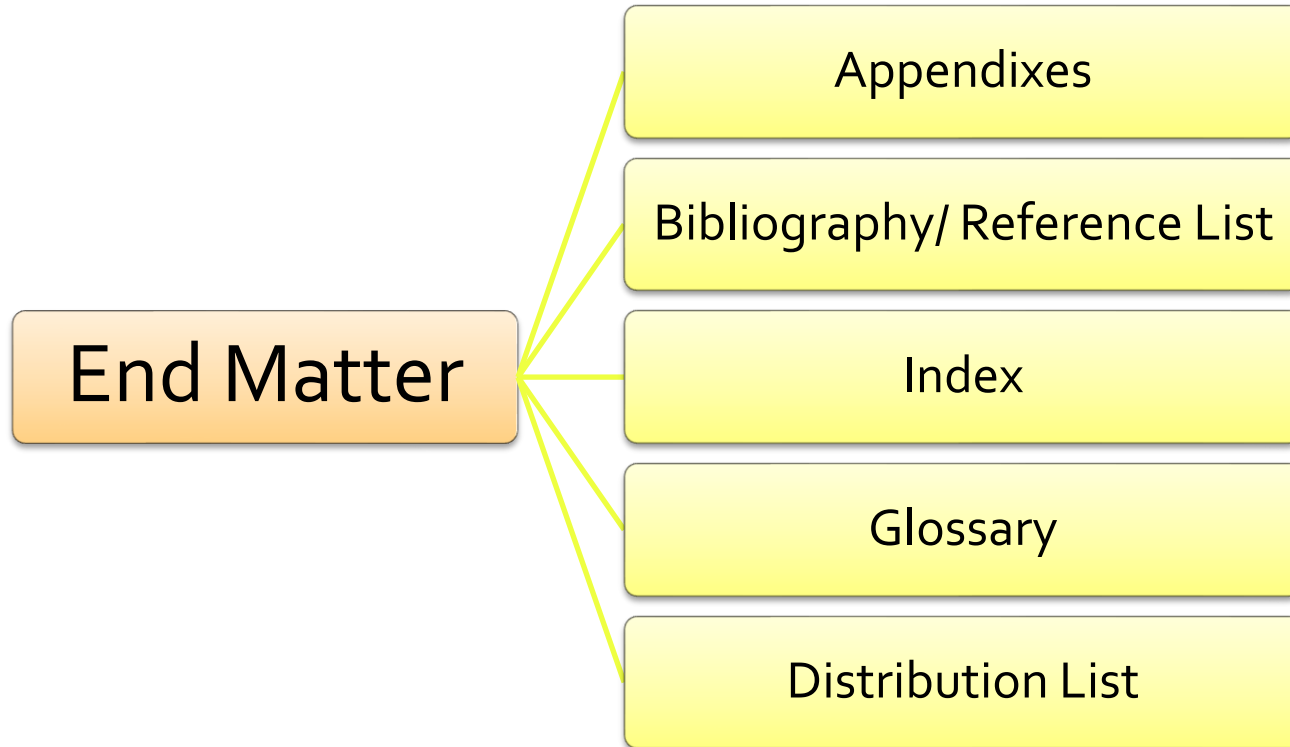
**Correct Cover**



# Abstract Vs Summary

|                  | <b>Abstract</b>                                      | <b>Summary</b>   |
|------------------|--|--|
| <b>Purpose</b>   | Provides a brief overview of a larger document.      | Offers a concise restatement of the main points or findings of a document. |
| <b>Length</b>    | 150-300 words.                                       | Varying  |
| <b>Placement</b> | At the beginning of a document, part of front matter | At the end of a document, within a report, not a part of end matter.       |

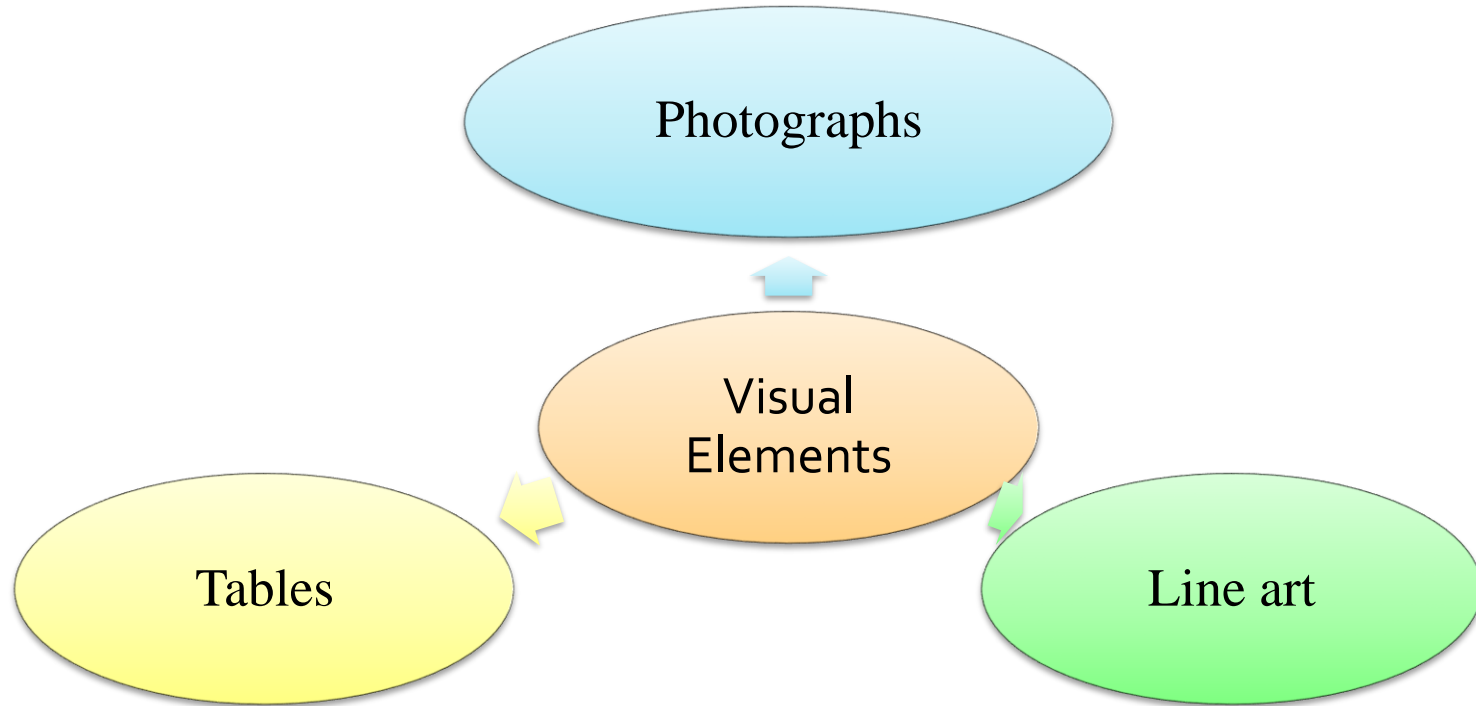
# End Matter



## Adds On

- Adds on are like **acknowledgement**, **executive summary** or **technical specifications**.

# Visual Elements





# Purpose of Visual Elements

Clarify content.

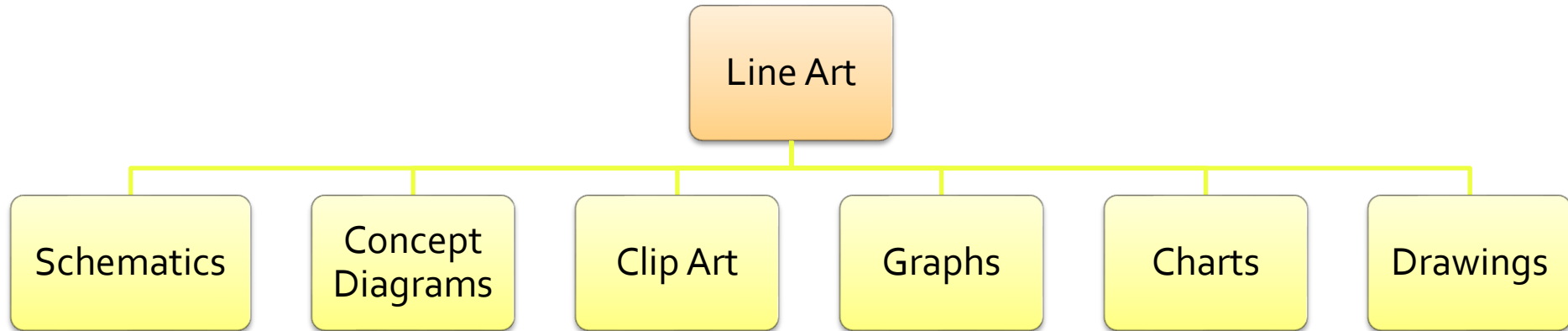
Help interpret information.

Make the document more interesting and easier to read.

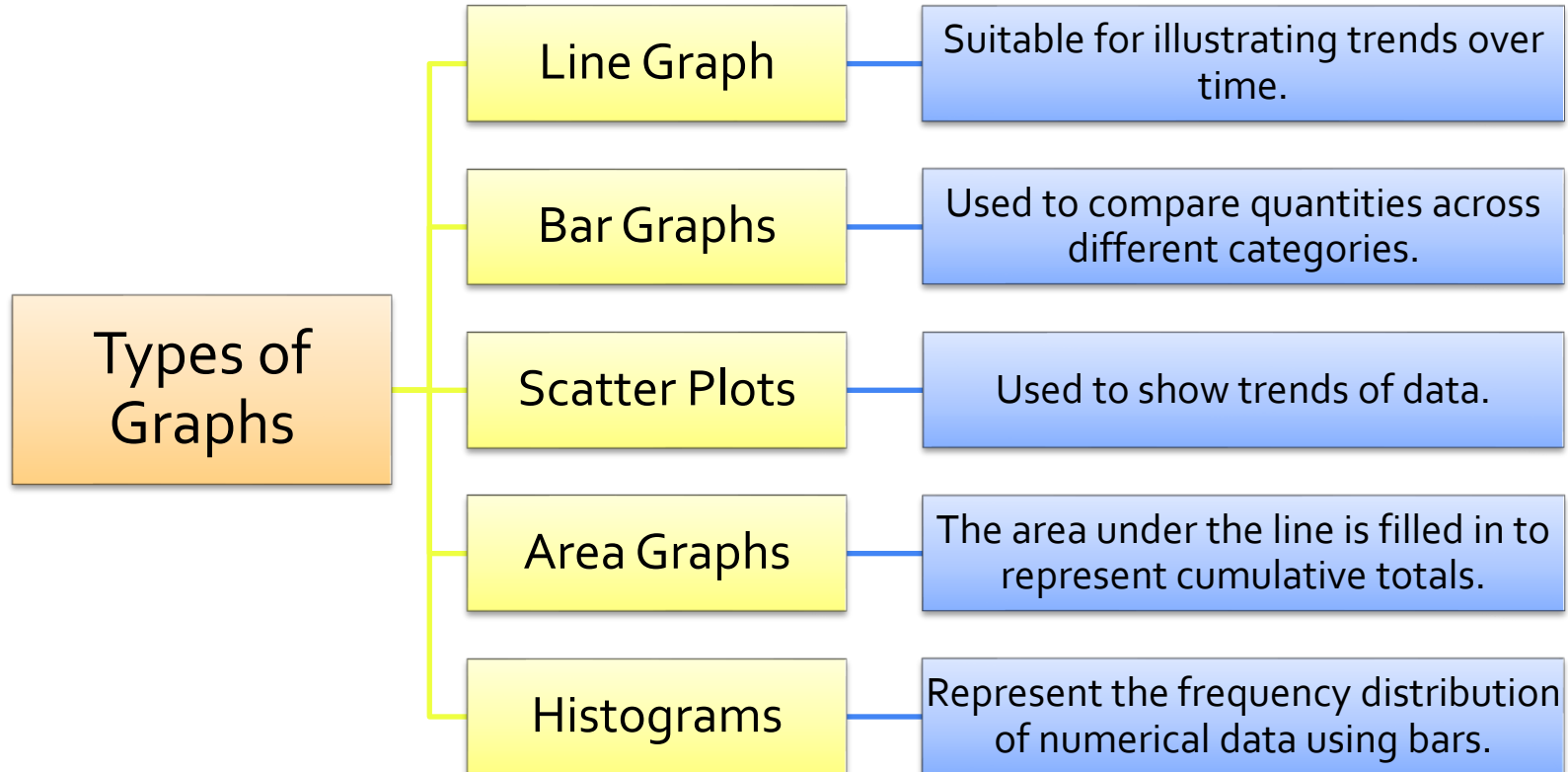
Used to increase visual appeal.

# Line Art

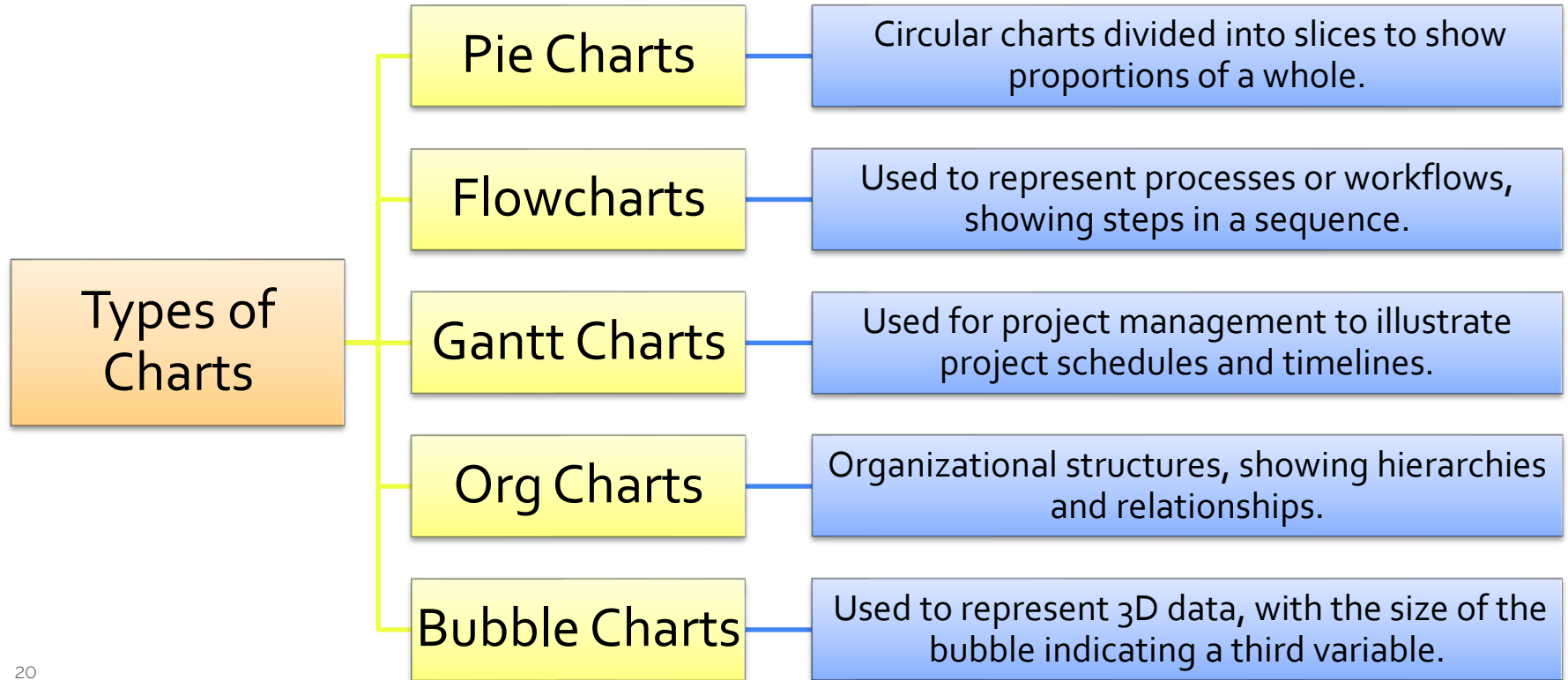
- Line art refers to visual elements that can be drawn with lines, text, and lines formed into letters, words, and sentences.



# Graphs



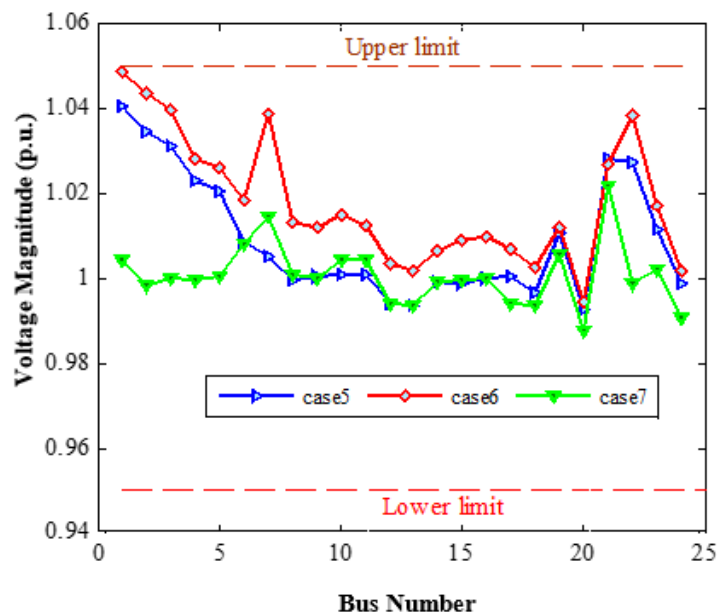
# Charts



# Placement of Figures and Tables

**Table 1.** The specific parameter settings for each algorithm.

| Algorithm | Specific Parameters   | Value                                      |
|-----------|---|--|
| MOAOA     | $\mu$ , $\alpha$ , MOP_Min, MOP_Max, Arch_size, $N_{pop}$ , $T_{max}$                             | 0.1, 5, 0.1, 1, 100, 100, 500              |
| MOGOA     | $cmin$ , $cmax$ , Arch_size, $N_{pop}$ , $T_{max}$  | 0.00004, 1, 100, 100, 500                  |
| MOSWO     | $TR$ , $CR$ , $N_{min}$ , $\alpha$ , $\beta$ , $\gamma$ , nGrid, Arch_size, $N_{pop}$ , $T_{max}$ | 0.3, 0.2, 20, 0.1, 4, 2, 30, 100, 100, 500 |



**Figure 17.** Voltage levels acquired by MOSWO for the three cases.

# Formal vs. Informal Writing: Exercise

- Now let's try to exercise changing from formal to informal writing.

| Formal Writing  | Informal Writing                             |
|---|--|
| The individual in question has submitted the necessary documentation. | He turned in the paperwork.                  |
| We would like to request your presence at the meeting.                | We'd love for you to join us at the meeting. |
| It is important to consider all available options.                    | Make sure to think about all your choices.   |
| The results of the study indicate a significant correlation.          | The study shows a strong link.               |
| I would appreciate your assistance with this matter.                  | I could use your help with this.             |



# Formal vs. Informal Writing: Exercise

- Now let's try to exercise changing from informal to formal writing.

| Informal Writing                           | Formal Writing   |
|--|--|
| I can't wait to hear back from you!        | I look forward to your response.                           |
| Let's touch base about the project later.  | I would like to schedule a meeting to discuss the project. |
| The new software is super easy to use.     | The new software is very user-friendly.                    |
| We're gonna need more time to finish this. | We will require additional time to complete this task.     |
| It's a good idea to check your work.       | It is advisable to review your work carefully.             |



# Active and Passive Voices: Exercise

- Now let's try to exercise changing the voice from active to passive and vice versa.

| Active Voice  | Passive Voice  |
|---|--|
| The technician calibrated the instruments before the measurements.  | The instruments were calibrated by the technician before the measurements. |
| Researchers analyzed the data to identify trends.                   | The data was analyzed by researchers to identify trends.                   |
| The system processes the input data in real-time.                   | The input data is processed by the system in real-time.                    |
| The project manager outlined the objectives for the team.           | The objectives for the team were outlined by the project manager.          |
| The scientists published their findings in a peer-reviewed journal. | The findings were published by the scientists in a peer-reviewed journal.  |



# Sentence Structure

- **Simple Sentences:**
  - Ex.: “The system processes data.”
- **Complex Sentences:**
  - Ex.: “The system processes data quickly, which improves overall performance.”
- **Bullet Points and Lists:** utilize bullet points and numbered lists to break up complex information and make it easier to digest.



# Words and Phrases to Avoid

Unclear Terms

Redundant Expressions

Jargon and Overly technical language

Overly Complex Words



# Questions??

