Concluding and Supporting Sections
Concluding and Supporting Sections

In this chapter we will discuss the following:

- Concluding section
- Summary section
- Abstract
- Title
- Appendixes
- References
Concluding and Supporting Sections

- The **concluding** section is where you tell your readers what you have told them.
- The **Summary** and **Abstract** are concise recapitulations (summarize) of the report content.
- The **Title** is the punch line and is most effective when short and informative.
- Each of these parts is important because of its potential to reach a different group of readers. Each should be written clearly and concisely.
Concluding Section

It is common practice in technical report writing to end the main text with a concluding section.
Concluding Section

- In spite of skillful writing, the readers may become confused or overwhelmed by:

  the larger number of details in a complicated report.

Clearly the writer needs to bring out the most important facts and discuss their significance.
Many busy people read the concluding section of a report first.

On the strength of this reading they may become interested in the details, or they may discard the entire report.
Concluding Section

- Therefore, the concluding section must be:

  1) self-contained
  2) independent of the main body of the report.
  3) Preferably it should be so worded that a person not completely familiar with that particular branch of science can understand what was learned from the investigation
Concluding Section

A few ground rules should be observed in writing the concluding section:

1) Do not use undefined symbols.
2) Do not cite equations, tables, figures, references, and appendixes.
3) Do not introduce new material.
The common subsections for this section are:
- Summary of Results
- Conclusions
- Concluding Remarks

These subsections connote (mean, imply) somewhat different contents distinguished by the degree of generality and certainty of the material included in them.
Since statements made in this section are often quoted by other investigators, each statement should be critically evaluated for accuracy and clarity.

A useful stage-setting approach to the concluding section is to briefly state the purpose and scope of your work.
Concluding Section

1. Summary of Results

The **summary of results** is the most straightforward concluding section:

- It simply **restates the major findings** of the investigation.
- All of the material presented must have **appeared** in the main body of the report.
- A frequently used method is to **itemize the main factual results**, usually in single sentences.
- The **facts** given are supplied from **experimentation** or **theory** ------- but not from any **reasoning** (i.e. they are not deduced).
2. Conclusions

- The usual form of reasoning in reports is to draw a conclusion from a series of facts.
- Conclusions should be general. They should not depend on the particular conditions of the report.
- If more than one conclusion is drawn, present them in order of importance.
- After the conclusions are written, examine every word and sentences critically to ensure that it means what you intended it to mean.
- Do not conclude already known facts and also do not confuse conclusions with results.
When it is not possible to draw adequate clear-cut conclusions, a concluding remark sub-section may be used.
Concluding Section

**Concluding Remarks**

- With this approach (using Concluding Remarks) you are:
  1. not constrained by the connotations of the heading “Summary of Results”, and “Conclusions”.
  2. free to give opinions, to evaluate and recommend. Of course the views you express should be based on the information provided by your investigations.
Concluding Section

- Sometimes **both** a Conclusion Remarks and Summary of Results sub-sections are used.
- Dual concluding sections allow a **concise** summary of the major results as well as **speculations or recommendations**.
- When both sections are used, the concluding remarks usually **precede** the summary of results as a “further discussion” of the results.
Example 1:

Aim

The aim of this project is to design a mobile phone tower.

Conclusions

In this report, a design for a mobile phone tower has been presented. The key features of the tower are...

It was found that...
Example 2:

Aim

The aim of this investigation is to analyse the bus delays at the intersection of the bus loop and Wellington Road at Monash University.

Conclusions

In this report, bus delays were analysed. It was found that... Based on these findings, it is recommended that...
Conclusion

From the foregoing discussion of the results it can be concluded that with proper adjustment of the parameters so far mentioned, a high level of conversion of hydrogen sulfide to elemental sulphur can be obtained. One set of parameters which gave more than 99.9% conversion of hydrogen sulfide is given for each gas mixture employed in the laboratory scale operation. These conditions may not represent the optimum set of commercial operation. However, they demonstrated that by combination of the parameters, high conversion levels could be obtained.
Example 2: Conclusions and Recommendations

Conclusion

Outdoor Equipment Ltd is not in a very secure financial position. Improvements in every area of the company are needed if the company is, in the first instance, to survive and then grow. The key areas of reform are the liquidity of the company and the quantity and quality of working capital, profitability, and financial stability. Management must address these areas simultaneously if the company is to overcome its present poor record.
The summary is the first main section in a report. (Although this section appears first, it is usually written last.)

In many respects the summary is an abstract of the introduction and the concluding section.

The summary is limited to 200 words.

The concluding section ground rules also apply to the Summary, which must be written so that it can be read independently of the report. It should be a concise recapitulation of the report content.

No specific format is prescribed (given) for the summary.
Include in the summary:

- Purpose and scope of your work. (whether it is experimental, theoretical, or both.)

- Range of variables.

- Limitations

- Major findings.

Obviously results and conclusions given in the Summary should be consistent with those in the concluding section.
This report deals with the testing and comparison of three data comparison techniques on an internal IBM software system.

A description of each of the three data comparison techniques used is provided with the testing protocol and results.

It was concluded that, although all three of the techniques resulted in substantial data compression, the increase in CPU time used to execute the compression functions was not acceptable and therefore, none of the three compression functions would be implemented in the system at this time.

It is recommended that more exhaustive literature search be done to find other compression techniques and that development takes place to create and test new techniques.
The abstract must be:

1- understandable independently of the text.
2- It should be no longer than 200 words. But if you can tell your story in less than that do it.

The abstract should briefly state the main features of the report such as:

- The purpose.
- The scope
- The major findings.
Supporting Sections
Abstract Section

- It is a condensed form of the Summary. Because the Abstract and Summary are used for different purposes, repetition in these two sections is acceptable.

- Many readers are first informed of your report through abstracting services (library). In fact, the Abstract usually receives wider circulation than the report. Therefore take the time to word the Abstract carefully so that the true nature and content of your report are described.
ABSTRACT

In an interactive environment the opportunity exists for the on-line execution of an algorithm represented as a sequence of ordered commands. In particular, when the sequence of commands defines a normal Markov algorithm, the on-line environment provides a practical testing ground for one of the basic theories of computation. In order to develop and run a Markov algorithm a specification is required which will be capable of execution by a computer. One possibility is to represent the Markov algorithm and its data as a sequence of LISP S-expressions and to process the S-expressions using an extended LISP interpreter. In this paper the translation of Markov algorithms to LISP S-expressions is discussed along with a minimum set of commands for a Markov processor. Some of the difficulties in constructing more complicated algorithms are also discussed and several enhancements are suggested which would make the resultant Markov processor more practical and easier to use.
Webster dictionary defines the title:

“The distinguished name of a written, printed, or filmed production”.

Clearly this statement is appropriate to titles of technical publications. Much abstracting and indexing is based on the title. An improperly titled paper may be virtually lost and never reach the audience for which it was intended. For this reason alone the title must be carefully thought out and worded to convey the most information in the fewest words (maximum length, 120 characters including spaces).
Title should identify the basic area of effort and, if possible, convey either explicitly or implicitly whether the work covered was primarily experimental or theoretical.

But avoid starting your title with, for example, “Study of----------------------“
“Research on -------.”

Do not use part numbers in titles (e.g., I, II, etc.) unless at least the first two parts can be published concurrently or nearly so.
If a report has been published in some other forms, include that information on your rough draft. Depending on the type of publication, this information will be presented as a footnote on page 1. For example,

Judicious use of footnotes may be made in the text, but remember that footnotes are:

- disruptive (upsetting) to readers
- decrease their comprehension (understanding).

Bibliographic references must not be given as footnotes.
Prepare a list of several tentative titles as you write the report, but make the selection only after all writing has been completed. By that time, you will have had to ponder (think over) all aspects of your work and will be in the strongest position to choose a representative title.
Acknowledgments

- Significant contribution directly related to the substantive content should be suitably acknowledged.
- When acknowledgment of contribution is wanted, it is included in a paragraph on the back of the title page.
Example:

Acknowledgment

MASK Engineering would like to thank Dr. Schaff of the Music Department and Ms. Cleveland from the Theater Department for their expertise and input for the Arts Center. We would also like to thank Dr. Tom for his aid in our research and use of his research materials.
An appendix should be regarded as the place for material that is important, but not essential, to the complete development of the report.

Examine the main parts of your report for unusual long and detailed sections. Frequently, the report can be improved by relocating some material from these sections to an appendix.
Particularly appropriate for appendixes are:
1- Involved mathematical derivations.
2- An example of an analysis described in the report.
3- Detailed descriptions of techniques, procedures, or equipment not essential to the main purpose of the report.
4- Symbol lists.
Appendixes must have titles. If there is more than one appendix, identify them by capital letters (A, B, C, etc.) in the order of their mention in the report.

Each appendix should be referred to at some point in the main body of the report.

If the symbol list is an appendix, make it either the first or last appendix.
Numbering of figures and tables mentioned for the first time in the appendixes is a continuation of the numbering in the main text.

Equations are usually numbered according to the appendix in which they appear (e.g., (A1), (A2), etc.) but may be a continuation of the equation numbers in the main text.
Authors other than those of the report may write appendixes. Appendixes having independent authors should be mentioned in the Introduction in the following manner:

Appendix C by Jone Mark describes the computer program used in the analysis.

An author and affiliation line (membership), as applicable, also appears under the appendix title.
References are citation of work related to points brought out in the report and are given as sources of additional information for the reader.

- The question of whether a reference is needed can only be answered with experience.
A reference may be appropriate to:

1. Show work pertinent to the subject.
2. Acknowledge the work of others in the same field, particularly quotations.
3. Save repetition of lengthy descriptions, procedures, development of theories, or other information.
4. Support your assumptions, reasoning, viewpoints, or explanations.
5. Compare previous results with those of your report.
Reports, books, papers, and other publications referred to in reports are listed in the References section at the end of the text, after any appendixes at the back of the report.
1) Format1:

- References are generally put into established style and listed by number in the order of mention in the text, tables, and figures consecutively.

- But the style and format of the reference list may follow accepted practice in the discipline of the report.
Format 2:

- You may use the author's last name (date) style of citation
  
  (e.g. Jones (1997, 1999); Hindi (2000)).

- This style allows you to revise your manuscript (document) without searching for and changing all references numbers.
Supporting Sections
References: Reference format

- This type of reference list alphabetized by the last name of the first author.
- Multiple publications by the same author (or authors) are listed in the chronological order from oldest to most recent.
- Documents by the same author in the same year are cited by author last name, year, and letter (e.g., Robinson (1970a,b)).
- Documents having no personal author may be cited in the text by using an abbreviated title.
If a bibliography is presented in addition to or in place of the References section, the publications in it are:

- neither numbered nor cited in the text
- either listed alphabetically according to author, listed chronologically, or grouped according to subject.
Only material that you have seen should be referenced. If you cannot obtain the original material, you must list the secondary source, but you may mention the original source in parentheses.

When surveying the literature for source material, check its availability. Do not use material that is not readily obtainable.
Personal communications and papers “to be published” may not be included in the reference list but may be acknowledged with parenthetical note in the text. In the note give the author’s name, the date, the company name and location, and the status of the information (e.g., M. B. Hindi, 1995, Petra Co., Amman, personal communication; K.J. Jones, 2004, J. Operational Research, to be published).
• Limited-distribution documents, unclassified reports whose availability is restricted by Government regulations should not be referenced unless absolutely necessary. If you use such references in a report with unlimited distribution, you will need to provide the name of the division, branch or office that controls the distribution of the report.
Copyrighted material may be referenced without permission from the copyright holder, but you must obtain permission for direct quotation or reproduction of any part of such material.
Supporting Sections
References: *Suitability*

- Documents of higher classification than report may be cited in the reference list both as an acknowledgment of the contributions of others and as a courtesy to those with access to these documents. But neither the document title nor material or data from the referenced document may be quoted or discussed if they are classified higher than your report.
Finally, correct citation of a reference is an important responsibility of the author. Double-check the final draft of your report to make certain no errors have crept into the reference list.
Example: References

Journal article, one author:

Journal article, two authors:

Magazine article:
Example: References

**Book**

**Encyclopedia or dictionary**
Example: References

Websites
Limb, P. (1992, May). Relationships between lab-or & African nationalist/liberation movements in southern Africa [Online]. Available: http://www.neal.ctstateu.edu/history/world_history/archives/limb-l.html [1997, April 20]. (Note that the first date is the one on the web document (if there is one), and the date at the end of the citation is when the site was accessed as a reference.)
Example: References

Example 1
It is the process that embeds data called a watermark into a multimedia object (cover work) such that the watermark can be detected or extracted later to make an assertion about the object. The object may be an image, audio, video or text (Mohanty, 1999).

Reference
Example: References

Example2:
Few other examples of steganography can be found in [1, 2, 3]. An important technique was the use of sympathetic inks. Ovid in his "Art of Love" suggests using milk to write invisibly.

References
A Table of Contents includes all the headings and subheadings in your report and the page numbers where each of these begins. When you create a Table of Contents, one of the most important decisions you have to make involves design. A good Table of Contents distinguishes headings from subheadings and aligns these with the appropriate page numbers. This also means you should pay attention to capitalization, spacing, and indentation.
Example: Which is better? A

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Appendices:

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Appendix B  Contribution of each group member
Example: Which is better? B

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Appendix 11
Answer: Contents A is better

Contents B has the following problems:

- The page should be titled 'Contents'.
- Background information should be included in the Introduction, perhaps as a subsection if there is a considerable amount.
- Section headings should be in parallel grammatical form; for example, Materials and Safety Features, and these should be sub-sections of Sections 2 and 3. Subsections should be clearly indented.
- The Discussion could more informatively be entitled: Comparison of Designs
- The Conclusions section needs an 's'.
- Appendices to a report should not have section or page numbers and, where there is more than one, should be titled Appendices. They also need titles.
- Dotted lines between section headings and page numbers would improve readability.