An introduction to Latex

Professional skills and group Study

Why LaTex?

- Use to write your reports (Professional skills and group study, second-year project, Final year project etc.)
- Scientists created it for scientists
 - a large community guides and forums
 - packages and templates available
- It makes documents of high typographical quality
 - I especially scientific

Benefit of Latex

- QUALITY: THE OUTPUT IS FAR MORE PROFESSIONAL THAN WITH ANY OTHER WORD
- ■PROCESSOR
- VERSATILITY: LATEX HAS A WIDE SELECTION OF PACKAGES TO EXTEND ITS
- POTENTIAL
 - BIBTEX, AMSMATH, GRAPHICX, TIKZ
- SEPARATION OF CONTENT AND STYLE: LaTeX USES A DOCUMENT STYLE,
- HENCE YOU DO NOT NEED TO APPLY FORMATTING
- SCALABILITY: YOU CAN SPLIT UP LARGE DOCUMENTS INTO SMALLER ONES
- STABILITY: IT DOES NOT CRASH AND THERE IS NO RISK OF YOU LOOSING THE
- ORIGINAL TEXT

How does it work

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- You write the document in plain text with special commands
- You can process the text and commands to obtain a beautifully formatted document.

What is for? Scientific documents

Reports and theses

UNIVERSITY NAME

DOCTORAL THESIS

Thesis Title

A thesis submitted in fulfillment of the requirements

for the degree of Doctor of Philosophy

in the

Research Group Name Department or School Name

August 27, 2017

Dr. James SMITH

John SMITH

Academic journals

Abstract-This electronic document is a live template. The various components of your paper [title, text, heads, etc.] are already defined on the style sheet, as illustrated by the portions given in this document.

ing electronic versions of their papers. All standard paper components have been specified for those researce (1) near of two when formatting individual papers (2) internation components and spantial papers (2) internation and papers (2) components have been specified for three rescons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent

A. Abbreviations and Acronyms
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II. PROCEDURE FOR PAPER SUBMISSION

A. Selecting a Template (Heading 2)

First, confirm that you have the correct template for your paper size. This template has been tailored for output on the U3-leuer paper size. Please do not use it for A+ paper since

B. Maintaining the Integrity of the Specifications

The template is used to formus your paper and style the text. All margins, column widths, line spaces, and text foms are prescribed; please do not alter them. You may note opeculiarities. For example, the head margin in this template measures proportionately more than is customary. In smear-ineed of this column is considered. curement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations

Preparation of Papers for IEEE Sponsored Conferences & Symposia*

III. MATH

Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any

This template, modified in MS Word 2003 and saved as Word 97 2003 & 6.095 RTP for the PC, provides authors with most of the formatting specifications needed for prepara-formating specifications needed for preparaform of the preparaform of

- units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as 3.5-inch disk drive.
- Avoid combining SI and CGS units, such as current in umperes and magnetic field in cereteds. This often leads to confusion because equations do not balance
- Do not mix complete spellings and abbreviations of units: Wb/m2 or webers per square meter, not we-bers/m2. Spell out units when they appear in text: . . . a few benries, not . . . a few H.
- Use a zero before decimal points: 0.25, not .25. Use cm3, not cc. (bullet list)

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Posters

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Desenvolvimento de um poster para o E-Comp, com os logos que tem geometrias diferentes

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- ▶ Grid-based local feature extraction instead of interest points
 ▶ Local descriptors:

And much more

Formal letters

Presentations

Résumé/CV

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Welcome to XYZ Programme

Dear Teemi

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Full Presentation Title Full Presentation Subtitle

Jane Doe personal-id@mail.muni.cz September 13, 2017

YOUR NAME HERE

PROJECTS

A DAY OF MY LIFE

Your Position or Tagline Here

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Another achievement more details about it of course. STRENGTHS

EDUCATION

Sports and relacation

PILD. in Your Discipline
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M.Sc. in Your Discipline Your University @ Sept 2001 - Aire 2002

Stanford University

Stanford 1998 - Are 2001

Outcomes

At the end of the 2 weeks, you should be able to know how to do:

- Headings
- Cross references
- Bibliography
- Next list
- Figure
- Tables
- Equations and Maths formulas
- Theorem and Lemma Environment

Install latex

Download software.

https://www.latex-project.org/get/

LaTex online

- https://www.overleaf.com/
- <u>https://latexbase.com/</u>
- Please do not use the university email when you use Overleaf if you want to use it. It does not comply with GDPR University regulations.

1st Latex document

- Start the document with \documentclass type of document.
- Content between \begin{document} and \end{document}

\documentclass[]{article}
\begin{document}
This is my first document
\end{document}



This is my first document

Latex Special characters

- Latex uses the following characters as commands
- % percent sign
- # hash (pound / sharp) sign
- & ampersand
- \$ dollar sign
- To write these characters as the text \\$\%; \&; \#!

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INSTRUCTIONS

Go to your BLACKBOARD >> Professional Skills and Group Study >> Content >> Week3-Latex

- 1. Download the all-les.zip folder
- 2. save the content in a new folder LATEX on your computer.

Example1: simple document

Go to week 3/Latex in class exercise/

Instructions:

 Save 1first.tex as my1first.tex. Open 1first-r.pdf. Write over my1first to make output my1first.pdf similar to 1first-r.pdf

Example1: first-r.pdf looks like:

Intro

This is all about me. Me-me-me. Me. me. mini-me.

1 How I spent last summer

1.1 June

Exams, examinations, more exams, examinations. Then more exams. (Note: new paragraph.)

1.2 July

Hot or not.

2 How summer ended

It became less hot.

Exercise 2:

- Save 2second.tex as my2second.tex.
- Open2second-r.pdf.
- Write over my2second.tex to make the output my2second.dvI/pdf asin(similar to) 2second-r.pdf('reverse engineering)
- Use labels! Not 'manually' numbers for sections;
- Use \cite commands, not simply type[1],[2]. Build.

Exercise 3: Mathematical formulae

- Open 3third.tex.
- Read about formulae. Build and view the result
- Save3third.tex as my3third.tex.
- Open3third-r.pdf.
- Reverse-write an input file by writing over my3third.

Exercise 4: environments

- Open 4fourth.tex.
- Build and view the result.
- Save 4fourth.tex. as my4fourth.tex.
- Open 4fourth-r.pdf
- Reverse-write an input file by writing over my4fourth.

Exercise 5: tables

- Open 5fifth.tex.
- Build and view the result.
- Save 5fifth.tex as my5fifth.tex
- Open 5fifth-r.pdf
- Reverse-write an input file by writing over my5fifth.

Exercise 6: lists

- Open 6sixth.tex.
- Build and view the result.
- Save 6sixth.tex as my6sixth.tex
- Open 6sixth-r.pdf
- Reverse-write an input file by writing over my6sixth.
- Use environments, not 'manual' numbers!

Exercise 7: figures

- Open 7seventh.tex.
- Build and view the result.
- Save 7seventh.tex as my7seventh.tex.
- Open 7seven-r.pdf.
- Reverse-write an input file by writing over my7seventh.

Document Structure

- Start the document with \documentclass type of document.
- Metadata \title or \autor and package in the preamble.
- Content between \begin{document} and \end{document}
- \maketitle command creates the title.
- \section created the numbered sections.