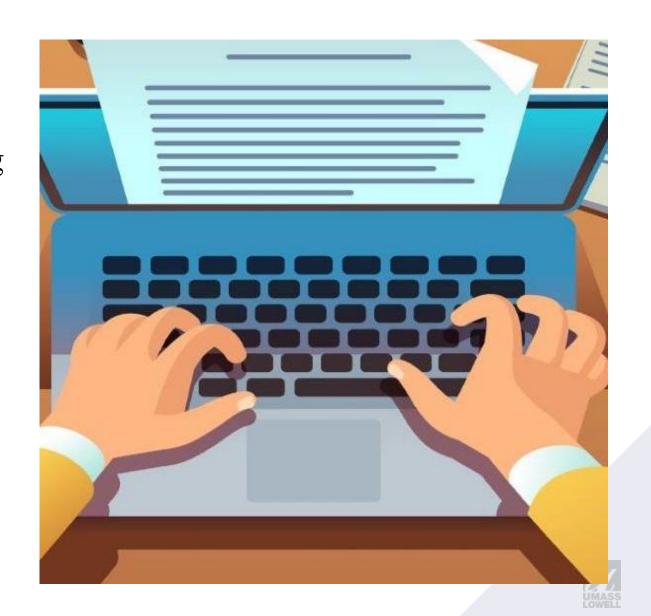
LATEX

UML ASSOCIATION FOR COMPUTING MACHINERY



TECHNICAL WRITING

- Technical writing can be tricky
- Words processors such as MS Word are not suitable for technical writing
 - Difficult for typing complex math formulas
 - Any program code cannot be properly formatted
- So what other tools can you use?



LATEX

- Markup language for typesetting documents
 - Created in 1984 by Leslie Lamport (also the creator of Lamport's Algorithm)
 - An extension of the typesetting language
 TeX
 - Papers submitted to ACM conferences are usually written in LaTeX
- LaTeX editors:
 - Overleaf: https://www.overleaf.com/project
 - LaTeX Workshop on VS Code:
 https://marketplace.visualstudio.com/items?
 itemName=James-Yu.latex-workshop
 - Kile: https://apps.kde.org/kile/





WHY SHOULD YOU USE IT?

Homework

- Looks nice
- Impresses professors
- Easier than typing it in Word or Google Docs
- Can easily include code in document

Papers

- Can segment different sections into their own files
- Use BibTeX for sources

Resume

- Neatly format to highlight relevant skills/projects
- ATS systems can parse text at a higher success rate



FEATURES



BASIC FORMATTING

- Lists
 - 1. Enumeration
 - Itemize

Description

- Tables
- Bold
- Italics
- <u>Underline</u>
- Monospace
- LaTeX



MATH MODE

- Allows you to type
 - Mathematical symbols
 - Greek letters
 - Sub & Super script
- Indicated by \$\$, \(\), \[\]
- Some commands only work in math mode, will cause errors outside
- Italicizes Latin letters, removes all spaces



IMAGES

Image

- \usepackage{graphicx}
- \includegraphics[]{}
 - Scale
 - Height
 - Width
 - Angle

• Figure

- Positioning
- Centring
- Caption



LISTINGS

- Allows you to insert code into a document
- Some limited syntax highlighting
 - Type code in document
 - Insert from another file
- Very customisable with a wide variety of supported languages

```
ABAP (R/2 4.3, R/2 5.0, R/3 3.1, R/3 4.6C, R/3 6.10)
ACM
ACSL
                                  Ada (2005, 83, 95)
Algol (60, 68)
Assembler (Motorola68k, x86masm)
                                 Awk (gnu, POSIX)
                                  Basic (Visual)
C (ANSI, Handel, Objective, Sharp)
C++ (11, ANSI, GNU, ISO, Visual)
                                 Caml (light, Objective)
CIL
                                  Clean
Cobol (1974, 1985, ibm)
                                  Comal 80
command.com (WinXP)
                                  Comsol
                                  Delphi
Eiffel
                                  Elan
elisp
                                  erlang
                                  Fortran (03, 08, 18, 77, 90, 95)
Euphoria
GAP
                                  Go
Gnuplot
                                  Haskell
hansl
HTML
                                  IDL (empty, CORBA)
                                  Java (empty, AspectJ)
Inform
JVMIS
Lingo
                                  Lisp (empty, Auto)
LLVM
                                  Logo
Lua (5.0, 5.1, 5.2, 5.3)
                                  make (empty, gnu)
Mathematica (1.0, 11.0, 3.0, 5.2)
                                 Matlab (empty, 5.1)
                                  MetaPost
Mercury
Miranda
                                  Mizar
ML
                                  Modula-2
MuPAD
                                  NASTRAN
Oberon-2
                                  OCL (decorative, OMG)
Octave
                                  OORexx
Oz
                                  Pascal (Borland6, Standard, XSC)
Perl
PL/I
                                  Plasm
PostScript
                                  POV
Prolog
                                  Promela
PSTricks
                                  Python (2, 3)
                                  Reduce
                                  RSL
Rexx (empty, VM/XA)
Ruby
                                  S (empty, PLUS)
SAS
                                  Scala (empty, 3.0)
Scilab
SHELXL
                                  Simula (67, CII, DEC, IBM)
SPARQL
                                  tcl (empty, tk)
TeX (AlLaTeX, common, LaTeX, plain, primitive)
VBScript
                                  Verilog
VHDL (empty, AMS)
                                  VRML (97)
XML
                                  XSLT
```



USEFUL LIBRARIES

- geometry
- enumitem
- fontenc
- xcolor
- amsmath, amssymb, amsthm
- hyperref
- tikz
- lipsum, kantlipsum



CONTACT INFO



