Dyalog APL support for LaTeX (a work in progress)

ERGO

A Munich Re company

Streng vertraulich

APL Germany — Bingen

Dyalog APL support for LaTeX
(a work in progress)

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1 LaTeX-usage in ERGO

    1 Specifications and documentations

    2 Legally binding or official documents

    3 Communication and presentations

2 APL-support for LaTeX

    1 Usage summary and derived necessities

    2 Interaction with LaTeX and TeXstudio

    3 Creation of data as pre-compiling

Dyalog APL support for LATEX
(a work in progress)

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About

$\LaTeX$ functionality:

About

LaTeX functionality:

    LaTeX is programming language

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LaTeX functionality:

    LaTeX is programming language

    but sometimes very awkward to use

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About

LATEX functionality:

LATEX is programming language

but sometimes very awkward to use

and TEX is sometimes voodoo...

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About

LaTeX functionality:

    LaTeX is programming language

    but sometimes very awkward to use

    and TeX is sometimes voodoo. . .

    TeXstudio is very good but not perfect

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About

LATEX functionality:

    LATEX is programming language

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Complex behaviour:

About

LaTeX functionality:

    LaTeX is programming language

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    TeXstudio is very good but not perfect

Complex behaviour:

    sometimes easier through other means

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About

LaTeX functionality:

    LaTeX is programming language

    but sometimes very awkward to use

    and TeX is sometimes voodoo...

    TeXstudio is very good but not perfect

Complex behaviour:

    sometimes easier through other means

    use APL functions as help

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Outline

1 $\LaTeX$-usage in ERGO

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Outline

1 LaTeX-usage in ERGO

2 APL-support for LaTeX

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Dyalog APL support for L^AT_EX (a work in progress)

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Outline of section on LaTeX-usage in ERGO

In this section we outline:

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  Specifications specifications and documentations

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Documents legally binding or official documents

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Target WS framework

How do we use LaTeX for internal documentations?

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Target WS framework

How do we use LaTeX for internal documentations?

    specification of health core functionality (health, Fachvorgabe Rechenkern)

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How do we use LaTeX for internal documentations?

    specification of health core functionality (health, Fachvorgabe Rechenkern)

    specification and discussion of IFRS17 model (health)

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    specification and discussion of IFRS17 model (health)

    documentation of APL workspaces (health)

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Target WS framework

How do we use LaTeX for internal documentations?

specification of health core functionality (health, Fachvorgabe Rechenkern)

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diverse small actuarial "papers"

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diverse small actuarial "papers"

R output through R Markdown

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WS builds for different purposes

How do we use LATEX for official documents?

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WS builds for different purposes

How do we use LaTeX for official documents?

plan specifications/descriptions (life, Geschäftspläne and health, Technische Berechnungsgrundlagen)

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WS builds for different purposes

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plan specifications/descriptions (life, Geschäftspläne and health, Technische Berechnungsgrundlagen)

balance sheet (life, Anhang zum Geschäftsbericht)

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balance sheet (life, Anhang zum Geschäftsbericht)

declaration of capping scheme (health, Limitierungserklärung)

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External and internal communication

How do we use LaTeX for communication?

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External and internal communication

How do we use LaTeX for communication?

    external letters et cetera for supervising authority (life, BaFin)

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External and internal communication

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How do we use LaTeX for communication?

external letters et cetera for supervising authority (life, BaFin)

internal presentations (health, beamer theme)

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Dyalog APL support for LaTeX
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Outline of section on APL-support for LATEX

In this section we outline:

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Outline of section on APL-support for LaTeX

In this section we outline:

Necessities usage summary and derived necessities

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  Interaction interaction with LATEX and TeXstudio

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Pre-compiler creation of data as pre-compiling

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Usage summary

What is $\LaTeX$ needed for?

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Usage summary

What is LaTeX needed for?

    very big and/or complex projects

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very big and/or complex projects

many tables, partially coming out of programs

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complete documents/projects created under program control

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Usage summary

What is LaTeX needed for?

      very big and/or complex projects

      many tables, partially coming out of programs

      complete documents/projects created under program control

      official and/or legally binding documents

Support summary

What support is needed for $\LaTeX$?

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Support summary

What support is needed for LaTeX?

    easy export of APL matrices as LaTeX code

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Support summary

What support is needed for LaTeX?

    easy export of APL matrices as LaTeX code

    compilation through DOS commands and parsing of log files

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What support is needed for LaTeX?

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What support is needed for LaTeX?

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automated creation of actuarial notation basis

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What support is needed for LaTeX?

     easy export of APL matrices as LaTeX code

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     search and replace functionality for whole projects

     creation of messages for and control of TeXstudio

     automated creation of actuarial notation basis

     automated change log in document for audit purposes

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Dyalog APL as controller

Workspace LATEX is interface between Dyalog and $\LaTeX$

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    ns **tex** is main ns of LATEX

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Dyalog APL as controller

Workspace LATEX is interface between Dyalog and LaTeX

ns **tex** is main ns of LATEX

ns **tex.gener** contains general functionalities

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Dyalog APL as controller

Workspace LATEX is interface between Dyalog and LaTeX

    ns **tex** is main ns of LATEX

    ns **tex.gener** contains general functionalities

    ns **tex.imp** contains functions for importing LaTeX files

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Dyalog APL as controller

Workspace LATEX is interface between Dyalog and LATEX

ns **tex** is main ns of LATEX

ns **tex.gener** contains general functionalities

ns **tex.imp** contains functions for importing LATEX files

ns **tex.exp** contains functions for exporting data and handling LATEX or TeXstudio

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Dyalog APL as pre-compiler

Workspace LATEX creates input for LaTeX compilation, instructions are included in the document itself

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Dyalog APL as pre-compiler

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ns **tex.notat** contains functions for analysing notation

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Dyalog APL as pre-compiler

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    ns **tex.notat** contains functions for analysing notation

- big part of actuarial notation based on multi-indexed symbols

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ns **tex.notat** contains functions for analysing notation

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- descriptions may be provided in "database"

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ns **tex.svn** contains functions for analysing SVN revisions

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ns **tex.svn** contains functions for analysing SVN revisions

- SVN repositories, revisions and commentaries may be analysed through DOS commands

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- big part of actuarial notation based on multi-indexed symbols
- possible to analyse defined and used macros of the sort
- descriptions may be provided in "database"

ns **tex.svn** contains functions for analysing SVN revisions

- SVN repositories, revisions and commentaries may be analysed through DOS commands
- results can be presented as tables

Conclusion

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Stand:

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Conclusion

Stand:

migration from APL+Win to Dyalog almost done

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Conclusion

Stand:

migration from APL+Win to Dyalog almost done

code refactoring necessary

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◄ begin

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