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Bringing DALES to the Exascale Era

Caspar Jungbacker

Delft University of Technology

--TITLE--

Bringing DALES to the Exascale Era

by

Caspar Jungbacker

Student Name	Student Number
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First Surname	1234567
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Instructor: I. Surname

Teaching Assistant: I. Surname

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evelt

Preface

A preface...

*Caspar Jungbacker
Delft, September 2023*

Summary

A summary...

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Nomenclature

If a nomenclature is required, a simple template can be found below for convenience. Feel free to use, adapt or completely remove.

Abbreviations

Abbreviation	Definition
ISA	International Standard Atmosphere
...	

Symbols

Symbol	Definition	Unit
V	Velocity	[m/s]
...		
ρ	Density	[kg/m ³]
...		

1

Introduction

An introduction... [**example-article**]

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About the Template

This chapter focuses on the parameterization of the Flying V, simulation set-up, optimization procedure

This template aims to simplify and improve the (Xe)LaTeX report/thesis template by Delft University of Technology with the following three main design principles:

- **Simplicity First:** A class file that has been reduced by nearly 70% to simplify customization;
- **Effortless:** A careful selection of common packages to get started immediately;
- **Complete:** Ready-to-go when it comes to the document and file structure.

This template works with pdfLaTeX, XeLaTeX and LuaLaTeX. In order to adhere to the TU Delft house style, either XeLaTeX or LuaLaTeX is required, as it supports TrueType and OpenType fonts. BibLaTeX is used for the bibliography with as backend biber. Please visit <https://dzwaneveld.github.io/report/> for the full documentation.

Documentation (Abridged)

As a report/thesis is generally a substantial document, the chapters and appendices have been separated into different files and folders for convenience. The folders are based on the three parts in the document: the frontmatter, mainmatter and appendix. All files are inserted in the main file, `report.tex`, using the `\input{filename}` command. The document class, which can be found in `tudelft-report.cls`, is based on the book class.

The template will automatically generate a cover when the `\makecover` command is used. The title, subtitle and author will also be present on the title page. To give greater flexibility over the title page, the layout is specified in `title-report.tex`. A title page for theses is also available: `title-thesis.tex`. Change the corresponding `\input{...}` command in the main file to switch.

The bibliography has been set up in `report.tex` to allow for easy customization. It is included in the table of contents and renamed to 'References' using the `heading=bibintoc` and `title=References` options of the `\printbibliography` command respectively. If you would like to use a different .bib file, change the command `\addbibresourcereport.bib` accordingly.

→ Visit <https://dzwaneveld.github.io/report/> for the full documentation.

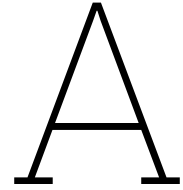
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Conclusion

A conclusion...



Source Code Example

Adding source code to your report/thesis is supported with the package listings. An example can be found below. Files can be added using \lstinputlisting[language=<language>]{<filename>}.

```
1 """
2 ISA Calculator: import the function, specify the height and it will return a
3 list in the following format: [Temperature,Density,Pressure,Speed of Sound].
4 Note that there is no check to see if the maximum altitude is reached.
5 """
6
7 import math
8 g0 = 9.80665
9 R = 287.0
10 layer1 = [0, 288.15, 101325.0]
11 alt = [0,11000,20000,32000,47000,51000,71000,86000]
12 a = [-.0065,0,.0010,.0028,0,-.0028,-.0020]
13
14 def atmosphere(h):
15     for i in range(0,len(alt)-1):
16         if h >= alt[i]:
17             layer0 = layer1[:]
18             layer1[0] = min(h,alt[i+1])
19             if a[i] != 0:
20                 layer1[1] = layer0[1] + a[i]*(layer1[0]-layer0[0])
21                 layer1[2] = layer0[2] * (layer1[1]/layer0[1])**(-g0/(a[i]*R))
22             else:
23                 layer1[2] = layer0[2]*math.exp((-g0/(R*layer1[1]))*(layer1[0]-
24                 layer0[0]))
25     return [layer1[1],layer1[2]/(R*layer1[1]),layer1[2],math.sqrt(1.4*R*layer1
26     [1])]
```

B

Task Division Example

If a task division is required, a simple template can be found below for convenience. Feel free to use, adapt or completely remove.

Table B.1: Distribution of the workload

Task	Student Name(s)
Summary	
Chapter 1 Introduction	
Chapter 2	
Chapter 3	
Chapter *	
Chapter * Conclusion	
Editors	
CAD and Figures	
Document Design and Layout	