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# MATH3140: ABSTRACT ALGEBRA I

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TEXTBOOK: TBD

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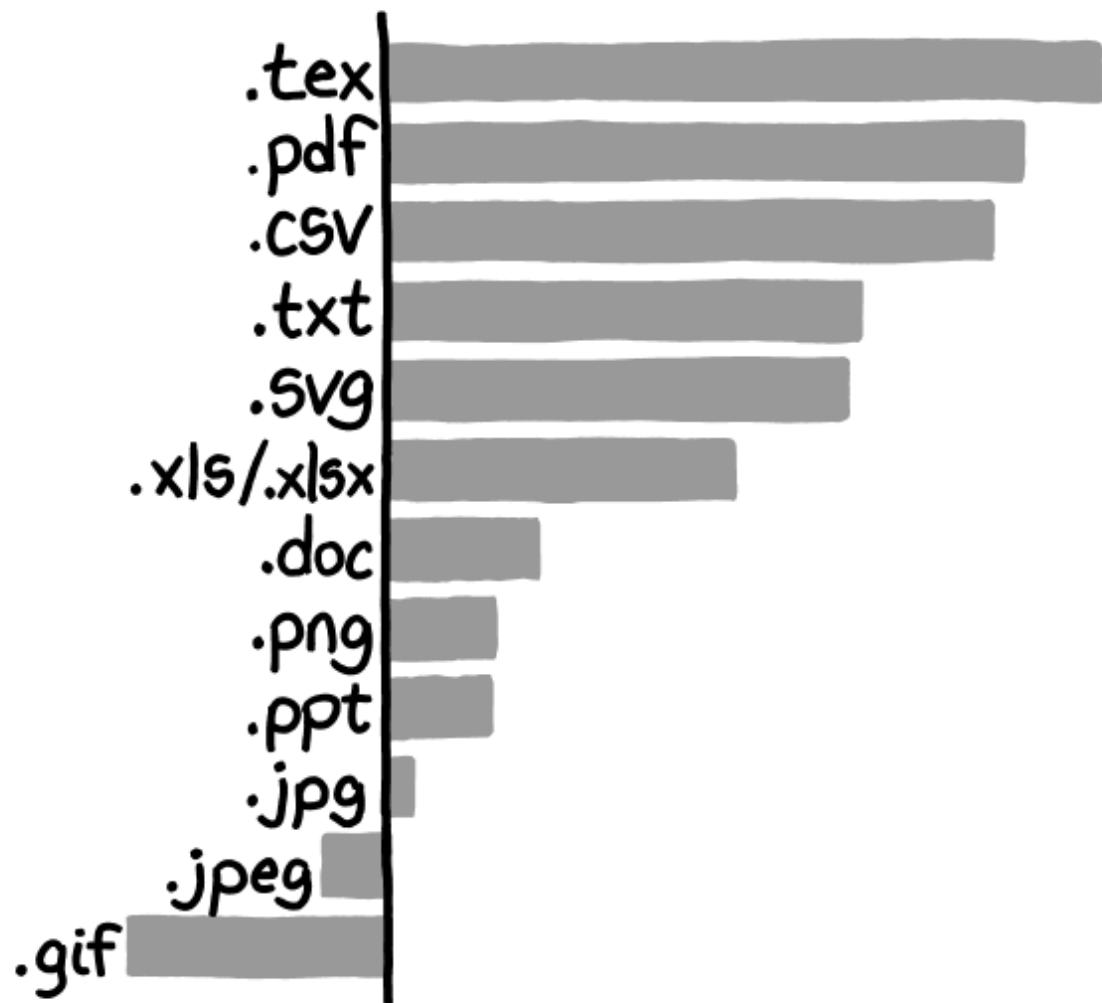


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# Preface

To the interested reader,

This document is a compilation of lecture notes taken during the Summer 2023 semester for MATH3140: Abstract Algebra I at the University of Colorado Boulder. The course used *Ordinary Differential Equations*<sup>1</sup> by Morris Tenenbaum and Harry Pollard as its primary text. Supplemental texts included Martin Braun's *Differential Equations and Their Applications*<sup>2</sup>. As such, many theorems, definitions, and content may be quoted or derived from the aforementioned books. This course was taught by Michael Noyes, Ph. D.

The author would like to provide the following resources for students currently taking a differential equations course:

1. Martin Braun's *Differential Equations and Their Applications*.
2. Paul's Online Notes for Differential Equations
3. MIT OpenCourseWare Differential Equations Lectures From Spring 2006.
4. 3Blue1Brown's *Overview of Differential Equations*.

While much effort has been put in to remove typos and mathematical errors, it is very likely that some errors, both small and large, are present. Please keep in mind that the author wrote this resource during the first summer of his undergraduate studies. If an error needs to be resolved, please contact Adithya Bhaskara at [adithya.bhaskara@colorado.edu](mailto:adithya.bhaskara@colorado.edu).

Best Regards,  
Adithya Bhaskara

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<sup>1</sup>Tenenbaum, M., & Pollard, H. (1985). *Ordinary Differential Equations*. Dover Publications.

<sup>2</sup>Braun, M. (1993). *Differential Equations and Their Applications an Introduction to Applied Mathematics*. Springer.

# 1

CH1 TEMP TBD

**1.1 Lecture 1: June 5, 2023**

**1.1.1 Lecture 1:**

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# Appendices

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