Introduction to Markdown

The de facto standard tool for software engineering documentation

What is Markdown?

Markdown is a *lightweight markup language* with plain text formatting syntax.

- designed to be converted to HTML and many other formats.
- This slide is made by Markdown and converted with Marp.

Key Characteristics

- **Human-readable**: even in raw form
- **Machine-readable**: a computer can parse a Markdown document
- **Platform-independent**
- **Version control friendly**
- **Easy to learn** (5 minutes to basics!)

Why Use Markdown?

The Markdown solves the traditional word processor problems:

- Slow and heavy

- Expensive software

- Proprietary formats

- Too much focus on formatting

Markdown Approach:

- Fast and lightweight

- Free and open

- Plain text (works everywhere)

- Focus on content, not formatting

Email example

```
Subject: URGENT: Please Review Document

Hi Team,

Please review the attached document ASAP.

Key points:
– Budget review
– Timeline changes
– Resource allocation

Thanks!
```

Same Content in Markdown:

```
# URGENT: Please Review Document

Hi Team,

Please review the attached document **ASAP**.

## Key points:
- Budget review
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- Resource allocation

Thanks!
```

Basic Markdown Syntax

Headlines & Text Formatting

```
# Heading 1 (Main Title)
## Heading 2 (Section)
### Heading 3 (Subsection)

**Bold text** or __Bold text__
*Italic text* or _Italic text_
***Bold and Italic***

~~Strikethrough text~~
```

Rendered output on the next page.

Heading 1

Heading 2

Heading 3

Bold text *Italic text* ***Bold and Italic*** ~~Strikethrough~~

Unordered Lists (Bullet Points)

```
- First item
- Second item
  - Nested item
  - Another nested item
- Third item
```

- First item

- Second item
    - Nested item

    - Another nested item

- Third item

Ordered Lists (Numbered)

```
1. First step
2. Second step
   1. Sub-step A
   2. Sub-step B
3. Third step
```

1. First step

2. Second step

    i. Sub-step A

    ii. Sub-step B

3. Third step

Links

```
[Google](https://google.com)
[Email me](mailto:chos5@nku.edu)
```

[Google](https://google.com)

[Email me](mailto:chos5@nku.edu)

Images

```
![Alt text](./pic/nku.webp)
![University Logo](https://www.nku.edu/content/1992535686.jpg)
```

Inline Code

```
Use the `print()` function to display output.
The variable `userName` stores the input.
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Code Blocks

```python
def greet_student(name):
    print(f"Hello, {name}! Welcome to class.")

greet_student("Alice")
```

```python
def greet_student(name):
    print(f"Hello, {name}! Welcome to class.")

greet_student("Alice")
```

Tables: Organizing Data

```
| Student | Grade | Status |
|---------|-------|--------|
| Alice   | A+    | Pass   |
| Bob     | B     | Pass   |
| Charlie | C-    | Pass   |
```

Student	Grade	Status
Alice	A+	Pass
Bob	B	Pass
Charlie	C-	Pass

Blockquotes

```
> "The best way to learn programming is by doing."
> — Dr. Cho
```

> "The best way to learn programming is by doing."
>
> — Dr. Cho

Markdown Tools

Use pandoc(https://pandoc.org) to convert Markdown into any file format.

```
pandoc MANUAL.md -o example1.html
pandoc MANUAL.md -o example1.pdf
```

Use VSC Extensions: Markdown Extension Pack

- Markdown All in One

- Markdown PDF

- Markdown Table Prettifier

- markdownlint

Why Markdown Matters in Software Engineering

Feature	Markdown	Word/PDF/HTML
Version Control	Excellent (plain text)	Poor/Complex
Learning Curve	Low	Medium/High
Portability	High (cross-platform)	Variable
Formatting Power	Basic (extendable)	Advanced
Collaboration	Seamless (merge-friendly)	Often cumbersome
Tool Dependence	Minimal (any text editor)	High (proprietary apps)