

# 1. Outline

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## 2. API Reference

### 2.1. Template

#### 2.1.1. notebook

The base notebook template. This function is meant to be applied to your entire document as a show rule.

#### Example Usage:

```
#import themes.default: default-theme

#show: notebook.with(
  theme: default-theme
)
```

#### 2.1.1.1. Parameters

```
notebook(
  team-name: string,
  season: string,
  year: string,
  cover: content,
  theme: theme,
  body: content
) -> content
```

##### 2.1.1.1.1. team-name string

The name of your team.

Default: none

#### 2.1.1.1.2. **season** `string`

The name of the current season.

Default: `none`

#### 2.1.1.1.3. **year** `string`

The years in which the notebook is being written.

Default: `none`

#### 2.1.1.1.4. **cover** `content`

The title page of the notebook.

Default: `none`

#### 2.1.1.1.5. **theme** `theme`

The theme that will be applied to all of the entries. If no theme is specified, it will fall back on the default theme.

Default: `( : )`

#### 2.1.1.1.6. **body** `content`

The content of the notebook. This will be ignored. Use the create-entry functions instead.

## 2.2. Entries

### 2.2.1. create-entry

The generic entry creation function. This function is not meant to be called by the user. Instead, use the three entry variants, frontmatter, body, and appendix, to create entries.

#### 2.2.1.1. Parameters

```
create-entry(  
  section: string,  
  title: string,  
  type: string,  
  date: datetime,  
  author,  
  witness,  
  body: content  
)
```

#### 2.2.1.1.1. section `string`

The type of entry. Takes either “frontmatter”, “body”, or “appendix”.

Default: `none`

#### 2.2.1.1.2. title `string`

The title of the entry.

Default: `""`

#### 2.2.1.1.3. type `string`

The type of entry. The possible values for this are decided by the theme.

Default: `none`

#### 2.2.1.1.4. date `datetime`

The date that the entry occurred at.

Default: `none`

#### 2.2.1.1.5. body `content`

The content of the entry.

### 2.2.2. create-frontmatter-entry

Variant of the `#create-entry()` function that creates a frontmatter entry.

**Example Usage:**

```
#create-frontmatter-entry(title: "Frontmatter")[
  #lorem(50)
]
```

### 2.2.3. create-body-entry

Variant of the `#create-entry()` function that creates a body entry.

**Example Usage:**

```
#create-body-entry(
  title: "Title",
  date: datetime(year: 2024, month: 1, day: 1),
  type: "identify", // Change this depending on what your theme allows
  author: "Bobert",
```

```
witness: "Bobernius",
)[
  #lorem(50)
]
```

#### 2.2.4. create-appendix-entry

Variant of the #create-entry() function that creates an appendix entry.

**Example Usage:**

```
#create-appendix-entry(title: "Appendix") [
  #lorem(50)
]
```

## 2.3. Glossary

### 2.3.1. add-term

Adds a term to the glossary.

**Example Usage:**

```
#glossary.add-term(
  "Word",
  "The definiton of the word."
)
```

#### 2.3.1.1. Parameters

```
add-term(
  word: string,
  definition: string
)
```

##### 2.3.1.1.1. word    string

The word you're defining

##### 2.3.1.1.2. definition    string

The definition of the word

## 2.4. Additional Datatypes

### 2.4.1. Theme

Themes are stored as dictionaries with the following fields:

**rules** <function>

The show and set rules that will be applied to the document

**cover** <function>

A function that returns the cover of the notebook. Must take ctx as input.

**frontmatter-entry** <function>

A function that returns a frontmatter entry. Must take ctx and body as input.

**body-entry** <function>

A function that returns a body entry. Must take ctx and body as input.

**appendix-entry** <function>

A function that returns a appendix entry. Must take ctx and body as input.

### 2.4.2. Context

Provides information to a callback about how it's being called.

Context is stored as a dictionary with the following fields:

**title** <string>

The title of the entry

**type** <string> or <none>

The type of the entry. This value is used differently by different templates. Refer to the template level documentation to see what this means for your theme.

**date** <datetime>

The date at which the entry started.

**page-number** <integer> or <none>

The page number of the first page of the entry. Only available while using the `print-toc()` utility function.

## 2.5. Default Theme

The default theme contains all the basic components for an engineering notebook, including a pros and cons table and a decision matrix template.

### Warning

This theme is very minimal, and is generally intended as a fallback for stuff that other themes don't implement.

### 2.5.1. Components

#### 2.5.1.1. toc

Prints the table of contents.

#### Example Usage

```
#create-frontmatter-entry(title: "Table of Contents")[
  #components.toc()
]
```

#### 2.5.1.1.1. Parameters

`toc()`

#### 2.5.1.2. glossary

Prints out the glossary.

##### Example Usage

```
#create-appendix-entry(title: "Glossary")[
  #components.glossary()
]
```

##### 2.5.1.2.1. Parameters

`glossary()`

#### 2.5.1.3. decision-matrix

Prints a decision matrix table.

##### Example Usage

```
#components.decision-matrix(
  properties: (
    (name: "Category 1"),
    (name: "Category 2"),
    (name: "Category 3")
  ),
  ("Decision", 4, 3, 2),
  ("Matrix", 1, 2, 3),
)
```

##### Example Usage

```
#components.decision-matrix(
  properties: (
    (name: "Flavor", weight: 2),
    (name: "Crunchiness"), // The weight defaults to 1
  ),
  ("Sweet Potato", 1, 2),
  ("Baked Potato", 2, 1)
)
```

##### 2.5.1.3.1. Parameters

```
decision-matrix(
  properties: array,
  ..choices: array
) -> content
```

###### 2.5.1.3.1.1. properties array

A list of the properties that each choice will be rated by and the weight of each property

Default: ()

###### 2.5.1.3.1.2. ..choices array

An array containing the name of the choices as its first member, and values for each of the properties at its following indices

#### 2.5.1.4. pro-con

Prints a pros and cons table.

##### Example Usage

```
#components.pro-con(  
  pros: "Pros",  
  cons: "Cons"  
)
```

##### Example Usage

```
#components.pro-con(  
  pros: [  
    #list(  
      "Sweet potato",  
      "Baked potato"  
    )  
  ],  
  cons: [  
    #list(  
      "Fries",  
      "Wedges"  
    )  
  ]  
)
```

##### 2.5.1.4.1. Parameters

```
pro-con(  
  pros: content,  
  cons: content  
) -> content
```

###### 2.5.1.4.1.1. pros content

The positive aspects

Default: []

###### 2.5.1.4.1.2. cons content

The negative aspects

Default: []

## 2.6. Radial Theme

The Radial theme is a minimal theme focusing on nice, rounded corners.

You can change the look of body entries by changing their type. The following types are available:

- "identify": For entries about the identify stage of the engineering design process.
- "brainstorm": For entries about the brainstorm stage of the engineering design process.
- "decide": For entries about the decide stage of the engineering design process.
- "build": For entries about the build stage of the engineering design process.

- "program": For entries about the programming stage of the engineering design process.
- "test": For entries about the testing stage of the engineering design process.
- "management": For entries about team management
- "notebook": For entries about the notebook itself

Minimal starting point:

```
// Import the template and theme here
```

```
#show: notebook.with(theme: radial-theme)
```

```
#create-frontmatter-entry(title: "Table of Contents")[
  #components.toc()
]
```

```
#create-body-entry(
  title: "Sample Entry", type: "identify", start-date: datetime(year: 1984, month: 1,
day: 1),
)[
```

**= Top Level heading**

```
#lorem(20)
```

```
#components.admonition(type: "note")[
  #lorem(20)
]
```

```
#components.pro-con(pros: [
  #lorem(50)
], cons: [
  #lorem(20)
])
```

```
#components.decision-matrix(
  properties: ("Flavor", "Versatility", "Crunchiness"), ("Sweet Potato", 5, 3, 1),
("White Potato", 1, 2, 3), ("Purple Potato", 2, 2, 2),
)
]
```

```
#create-appendix-entry(title: "Glossary")[
  #components.glossary()
]
```

## 2.6.1. Components

### 2.6.1.1. toc

Print out the table of contents

Example Usage:

```
#create-frontmatter-entry(title: "Table of Contents")[
  #components.toc()
]
```

#### 2.6.1.1.1. Parameters

```
toc()
```



### 2.6.1.2. glossary

Print out the glossary

Example Usage:

```
#create-frontmatter-entry(title: "Glossary")[  
  #components.glossary()  
]
```

#### 2.6.1.2.1. Parameters

`glossary()`

### 2.6.1.3. admonition

A message in a colored box meant to draw the reader's attention.

#### 2.6.1.3.1. Parameters

```
admonition(  
  type: string,  
  body: content  
) -> content
```

##### 2.6.1.3.1.1. type `string`

The type of admonition. Available types include:

- “note”
- “example”
- “quote”
- “equation”
- “decision”
- “build”

Default: `none`

##### 2.6.1.3.1.2. body `content`

The content of the admonition

### 2.6.1.4. pro-con

A table displaying pros and cons.

#### 2.6.1.4.1. Parameters

```
pro-con(  
  pros: content,  
  cons: content  
) -> content
```

#### 2.6.1.4.1.1. pros content

The positive aspects

Default: []

#### 2.6.1.4.1.2. cons content

The negative aspects

Default: []

### 2.6.1.5. decision-matrix

A decision matrix table.

#### 2.6.1.5.1. Parameters

```
decision-matrix(  
  properties: array,  
  ..choices: array  
) -> content
```

##### 2.6.1.5.1.1. properties array

A list of the properties that each choice will be rated by

Default: none

##### 2.6.1.5.1.2. ..choices array

An array containing the name of the choices as its first member, and values for each of the properties at its following indices

### 2.6.1.6. tournament

A Series of tables displaying match data from a tournament. Useful for tournament analysis entries.

#### 2.6.1.6.1. Parameters

```
tournament(..matches: dictionary) -> content
```

#### 2.6.1.6.1.1. **..matches** dictionary

A list of all of the matches at the tournament. Each dictionary must contain the following fields:

- match (string) The name of the match
- red-alliance <dictionary> The red alliance
  - teams <array>
  - score <integer>
- blue-alliance <dictionary> The blue alliance
  - teams <array>
  - score <integer>
- won <boolean> Whether you won the match
- auton <boolean> Whether you got the autonomous bonus
- awp <boolean> Whether you scored the autonomous win point
- notes <content> Any additional notes you have about the match

#### 2.6.1.7. **pie-chart**

Creates a labeled pie chart.

Example Usage:

```
#pie-chart(  
  (value: 8, color: green, name: "wins"),  
  (value: 2, color: red, name: "losses")  
)
```

##### 2.6.1.7.1. **Parameters**

`pie-chart(..data: dictionary) -> content`

#### 2.6.1.7.1.1. **..data** dictionary

Each dictionary must contain 3 fields.

- value: <integer> The value of the section
- color: <color> The value of the section
- name: <string> The name of the section

#### 2.6.1.8. **plot**

Example Usage:

```
#plot(  
  title: "My Epic Graph",  
  (name: "thingy", data: ((1,2), (2,5), (3,5))),  
  (name: "stuff", data: ((1,1), (2,7), (3,6))),  
  (name: "potato", data: ((1,1), (2,3), (3,8))),  
)
```

### 2.6.1.8.1. Parameters

```
plot(  
  title: string,  
  x-label: string,  
  y-label: string,  
  length,  
  ..data: dictionary  
) -> content
```

#### 2.6.1.8.1.1. title string

The title of the graph

Default: ""

#### 2.6.1.8.1.2. x-label string

The label on the x axis

Default: ""

#### 2.6.1.8.1.3. y-label string

The label on the y axis

Default: ""

### 2.6.1.9. gantt-chart

A gantt chart for task management

Example Usage:

```
#gantt-chart(  
  start: datetime(year: 2024, month: 1, day: 27),  
  end: datetime(year: 2024, month: 2, day: 3),  
  tasks: (  
    ("Build Robot", (0,4)),  
    ("Code Robot", (3,6)),  
    ("Drive Robot", (5,7)),  
    ("Destroy Robot", (7,8)),  
  ),  
  goals: (  
    ("Tournament", 4),  
  )  
)
```

### 2.6.1.9.1. Parameters

```
gant-chart(  
  start: datetime,  
  end: datetime,  
  date-interval: integer,  
  date-format: string,  
  tasks: array,  
  goals: array  
) -> content
```

#### 2.6.1.9.1.1. start datetime

Start date using datetime object

- year: <integer>
- month: <integer>
- day: <integer>

Example usage: `datetime(year: 2024, month: 7, day: 16)`

Default: `datetime`

#### 2.6.1.9.1.2. end datetime

End date using datetime object

- year: <integer>
- month: <integer>
- day: <integer>

Example usage: `datetime(year: 2024, month: 5, day: 2)`

Default: `datetime`

#### 2.6.1.9.1.3. date-interval integer

The interval between dates, seven would make it weekly

Default: `1`

#### 2.6.1.9.1.4. date-format string

The way the date is formatted using the `<datetime.display()>` method

Default: `"[month]/[day]"`

#### 2.6.1.9.1.5. tasks array

Specify tasks using an array of arrays that have three fields each

1. <string> or <content> The name of the task
2. <array>(<integer> or <float>, <integer> or <float>) The start and end point of the task
3. <color> The color of the task line (optional)

Example sub-array: ("Build Catapult", (1,5), red)

Default: ()

#### 2.6.1.9.1.6. goals array

Add goal markers using an array of arrays that have three fields each

1. <string> or <content> The name of the goal
2. <integer> or <float> The position of the goal
3. <color> The color of the goal box (optional)
  - Default is grey, but put none for no box

Example sub-array: ("Worlds", 6, red)

Default: none

#### 2.6.1.10. team

Display information about your team.

Example Usage:

```
#team(  
  (  
    name: "Random Person",  
    picture: image("./path-to-image.png", width: 90pt, height: 90pt),  
    about: [  
      Likes Coding  
    ],  
  ),  
)
```

##### 2.6.1.10.1. Parameters

team(..members: dictionary) -> content

##### 2.6.1.10.1.1. ..members dictionary

A list of members in your team. Each dictionary must contain the following fields:

- name <string>: The name of the team member
- picture <content>: An image of the team member
- about <content>: About the team member

#### 2.6.1.11. label

A label that corresponds with one of the entry types.

##### 2.6.1.11.1. Parameters

```
label(  
  type: string,  
  size: size  
) -> content
```

###### 2.6.1.11.1.1. type string

Any of the radial entry types

###### 2.6.1.11.1.2. size size

The size of the label

Default: 0.7em

## 2.7. Linear Theme

The Linear theme is a template that uses straight lines and boxes.

You can change the look of body entries by changing their type. The following types are available:

- "identify": For entries about the identify stage of the engineering design process.
- "brainstorm": For entries about the brainstorm stage of the engineering design process.
- "decide": For entries about the decide stage of the engineering design process/
- "build": For entries about the build stage of the engineering design process.
- "program": For entries about the programming stage of the engineering design process.
- "test": For entries about the testing stage of the engineering design process

### Minimal Starting Point

```
#create-frontmatter-entry(title: "Table of Contents") [  
  #components.toc()  
]  
  
#create-body-entry(title: "Day 1", type: "identify", date: datetime(year: 1984,  
month: 1, day: 1)) [  
  = Heading  
  
  #lorem(50)  
  
  #components.pro-con(  
    pros: [  
      #list(  
        [Sweet potato],  
        [Red potato],  
        [Yellow potato]  
      )  
    ],  
    cons: [  

```

```

        #list(
            [Fries],
            [Wedges],
            [Mashed]
        )
    ]
)
]

#create-body-entry(title: "Day 2", type: "identify", date: datetime(year: 1984,
month: 1, day: 2))[
    = Another Heading

    #lorem(50)

    #components.decision-matrix(
        properties: (
            (name: "Lorem", weight: 2),
            (name: "Ipsum")
        ),
        ("Dolor", 1, 3),
        ("Sit", 2, 2),
        ("Amet", 3, 1)
    )

    == A Smaller Heading

    #lorem(50)
]

#glossary.add-term("Term 1")[
    #lorem(10)
]

#glossary.add-term("Term 2")[
    #lorem(10)
]

#create-appendix-entry(title: "Glossary")[
    #components.glossary()
]

```

## 2.7.1. Components

### 2.7.1.1. decision-matrix

Prints a decision matrix table.

#### Example Usage

```

#decision-matrix(
    properties: (
        (name: "Versatility", weight: 2),
        (name: "Flavor", weight: 6),
        (name: "Crunchiness"), // Defaults to a weight of 1
    ),
    ("Sweet potato", 2, 5, 1),
    ("Red potato", 2, 1, 3),

```



```
( "Yellow potato", 2, 2, 3),  
)
```

#### 2.7.1.1.1. Parameters

```
decision-matrix(  
  properties: array,  
  ..choices: array  
) -> content
```

##### 2.7.1.1.1.1. properties array

A list of the properties that each choice will be rated by

Default: **none**

##### 2.7.1.1.1.2. ..choices array

An array containing the name of the choices as its first member, and values for each of the properties at its following indices

#### 2.7.1.2. pro-con

Prints a pros and cons table.

##### Example Usage

```
#pro-con(  
  pros: [  
    #list(  
      [Sweet potato],  
      [Red potato],  
      [Yellow potato]  
    )  
  ]  
  cons: [  
    #list(  
      [Fries],  
      [Wedges],  
      [Mashed]  
    )  
  ]  
)
```

#### 2.7.1.2.1. Parameters

```
pro-con(  
  pros: content,  
  cons: content  
) -> content
```

#### 2.7.1.2.1.1. pros `content`

The positive aspects

Default: []

#### 2.7.1.2.1.2. cons `content`

The negative aspects

Default: []

### 2.7.1.3. toc

Prints the table of contents.

#### Example Usage

```
#create-frontmatter-entry(title: "Table of Contents")[  
  #components.toc()  
]
```

#### 2.7.1.3.1. Parameters

`toc()`