

## 5. reStructuredText Markup

### ! Chinese proverb

Making full preparation will not delay your job but quicken the process. – old Chinese proverb

### 5.1. reStructuredText Primer

I would refer the reader to [Sphinx2019] and [Georg2018] for more details.

#### 5.1.1. Sections

Sections are identified through their titles, which are marked up with adornment: “underlines” below the title text, or underlines and matching “overlines” above the title. More details can be found at: <http://docutils.sourceforge.net/docs/ref/rst/restructuredtext.html#sections>

reStructuredText:

```
=====  
Section Title  
=====  
  
Subsection Title  
+++++++  
  
Subsubsection Title  
-----
```

#### 5.1.2. Paragraphs

The paragraph is the most basic block in a reST document. Paragraphs are simply chunks of text separated by one or more blank lines. As in Python, indentation is significant in reST, so all lines of the same paragraph must be left-aligned to the **same level of indentation**. More details can be found at: <http://docutils.sourceforge.net/docs/ref/rst/restructuredtext.html#paragraphs>

##### 1. General Paragraphs

reStructuredText:

```
This is the first demo paragraph. The blank line above
the first line is required; The blank line below the last
line is required.

This is the second demo paragraph. The blank line above
the first line is required; The blank line below the last
line is required.
```

Syntax diagram:

```
+-----+
| paragraph |
|           |
+-----+

+-----+
| paragraph |
|           |
+-----+
```

Result:

This is the first demo paragraph. The blank line above the first line is required; The blank line below the last line is required.

This is the second demo paragraph. The blank line above the first line is required; The blank line below the last line is required.

## 2. Bullet Lists Paragraphs

reStructuredText:

- This is the first bullet list item. The blank line above the first list item is required; blank lines between list items (such as below this paragraph) are optional.

- This is the first paragraph in the second item in the list.

This is the second paragraph in the second item in the list. The blank line above this paragraph is required. The left edge of this paragraph lines up with the paragraph above, both indented relative to the bullet.

- This is a sublist. The bullet lines up with the left edge of the text blocks above. A sublist is a new list so requires a blank line above and below.

- This is a sublist. The bullet lines up with the left edge of the text blocks above. A sublist is a new list so requires a blank line above and below.

- This is the third item of the main list.

This paragraph is not part of the list.

### Syntax diagram:

```
+-----+-----+
| "- " | list item      |
+-----+ (body elements)+
          +-----+
```

### Result:

- This is the first bullet list item. The blank line above the first list item is required; blank lines between list items (such as below this paragraph) are optional.
- This is the first paragraph in the second item in the list.

This is the second paragraph in the second item in the list. The blank line above this paragraph is required. The left edge of this paragraph lines up with the paragraph above, both indented relative to the bullet.

- This is a sublist. The bullet lines up with the left edge of the text blocks above. A sublist is a new list so requires a blank line above and below.
- This is a sublist. The bullet lines up with the left edge of the text blocks above. A sublist is a new list so requires a blank line above and below.
- This is the third item of the main list.

This paragraph is not part of the list.

### 3. Bullet Lists Paragraphs

reStructuredText:

- ```
1. This is the first bullet list item. The blank line above the
   first list item is required; blank lines between list items
   (such as below this paragraph) are optional.

2. This is the first paragraph in the second item in the list.

   This is the second paragraph in the second item in the list.
   The blank line above this paragraph is required. The left edge
   of this paragraph lines up with the paragraph above, both
   indented relative to the bullet.

   a. This is a sublist. The bullet lines up with the left edge of
      the text blocks above. A sublist is a new list so requires a
      blank line above and below.

   b. This is a sublist. The bullet lines up with the left edge of
      the text blocks above. A sublist is a new list so requires a
      blank line above and below.

3. This is the third item of the main list.
```

Result:

1. This is the first bullet list item. The blank line above the first list item is required; blank lines between list items (such as below this paragraph) are optional.
2. This is the first paragraph in the second item in the list.  
  
This is the second paragraph in the second item in the list. The blank line above this paragraph is required. The left edge of this paragraph lines up with the paragraph above, both indented relative to the bullet.
  - a. **This is a sublist. The bullet lines up with the left edge of**  
the text blocks above. A sublist is a new list so requires a blank line above and below.
  - b. **This is a sublist. The bullet lines up with the left edge of**  
the text blocks above. A sublist is a new list so requires a blank line above and below.
3. This is the third item of the main list.

Syntax diagram:

```

+-----+-----+
| "1. " | list item      |
+-----+ (body elements)+
          +-----+

```

Result:

1. This is the first bullet list item. The blank line above the first list item is required; blank lines between list items (such as below this paragraph) are optional.
2. This is the first paragraph in the second item in the list.

This is the second paragraph in the second item in the list. The blank line above this paragraph is required. The left edge of this paragraph lines up with the paragraph above, both indented relative to the bullet.

- a. This is a sublist. The bullet lines up with the left edge of the text blocks above. A sublist is a new list so requires a blank line above and below.
- b. This is a sublist. The bullet lines up with the left edge of the text blocks above. A sublist is a new list so requires a blank line above and below.

3. This is the third item of the main list.

#### 4. **Blocked Paragraphs**

##### a. **Line Blocks**

reStructuredText:

```

Take it away, Eric the Orchestra Leader!

| A one, two, a one two three four
|
| Half a bee, philosophically,
|   must, *ipso facto*, half not be.
| But half the bee has got to be,
|   *vis a vis* its entity. D'you see?
|
| But can a bee be said to be
|   or not to be an entire bee,
|   when half the bee is not a bee,
|   due to some ancient injury?
|
| Singing...

```

Syntax diagram:

```
+-----+-----+
| " | " | line      |
+-----| continuation line |
          +-----+
```

Result:

Take it away, Eric the Orchestra Leader!

A one, two, a one two three four

Half a bee, philosophically,  
must, *ipso facto*, half not be.  
But half the bee has got to be,  
*vis a vis* its entity. D'you see?

But can a bee be said to be  
or not to be an entire bee,  
when half the bee is not a bee,  
due to some ancient injury?

Singing...

## 5. Doctest Blocks

reStructuredText:

```
This is an ordinary paragraph.

>>> print 'this is a Doctest block'
this is a Doctest block

The following is a literal block::

    >>> This is not recognized as a doctest block by
    reStructuredText. It will be recognized by the doctest
    module, though!
```

Result:

This is an ordinary paragraph.

```
>>> print 'this is a Doctest block'
this is a Doctest block
```

The following is a literal block:

```
>>> This is not recognized as a doctest block by
reStructuredText. It will be recognized by the doctest
module, though!
```

### 3. Field Lists

reStructuredText:

```
:Date: 2001-08-16
:Version: 1
:Authors: - Me
              - Myself
              - I
:Indentation: Since the field marker may be quite long, the second
and subsequent lines of the field body do not have to line up
with the first line, but they must be indented relative to the
field name marker, and they must line up with each other.
:Parameter i: integer
```

Result:

**Date:** 2001-08-16

**Version:** 1

**Authors:**

- Me
- Myself
- I

**Indentation:** Since the field marker may be quite long, the second and subsequent lines of the field body do not have to line up with the first line, but they must be indented relative to the field name marker, and they must line up with each other.

**Parameter i:** integer

### 5.1.3. Table

More details can be found at:

<http://docutils.sourceforge.net/docs/ref/rst/restructuredtext.html#grid-tables>

#### 1. Grid Tables

reStructuredText:

```
+-----+-----+-----+-----+
| Header row, column 1 | Header 2 | Header 3 | Header 4 |
| (header rows optional) | | | |
+=====+=====+=====+=====+
| body row 1, column 1 | column 2 | column 3 | column 4 |
+-----+-----+-----+-----+
| body row 2          | Cells may span columns. |
+-----+-----+-----+-----+
| body row 3          | Cells may | - Table cells |
+-----+-----+-----+-----+
| body row 4          | span rows. | - contain |
|                    |            | - body elements. |
+-----+-----+-----+-----+
```

Result:

| Header row, column 1 (header rows optional) | Header 2                | Header 3         | Header 4 |
|---------------------------------------------|-------------------------|------------------|----------|
| body row 1, column 1                        | column 2                | column 3         | column 4 |
| body row 2                                  | Cells may span columns. |                  |          |
| body row 3                                  | Cells may span rows.    | • Table cells    |          |
| body row 4                                  |                         | • contain        |          |
|                                             |                         | • body elements. |          |

#### 2. Simple Tables

reStructuredText:

```
=====
A      B      A and B
=====
False  False  False
True   False  False
False  True   False
True   True   True
=====
```



Result:

| A     | B     | A and B |
|-------|-------|---------|
| False | False | False   |
| True  | False | False   |
| False | True  | False   |
| True  | True  | True    |

reStructuredText:

```
==== =
col 1 col 2
==== =
1 Second column of row 1.
2 Second column of row 2.
  Second line of paragraph.
3 - Second column of row 3.
   - Second item in bullet
     list (row 3, column 2).
\ Row 4; column 1 will be empty.
==== =
```

Result:

| col 1 | col 2                                                                                                                             |
|-------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1     | Second column of row 1.                                                                                                           |
| 2     | Second column of row 2. Second line of paragraph.                                                                                 |
| 3     | <ul style="list-style-type: none"><li>• Second column of row 3.</li><li>• Second item in bullet list (row 3, column 2).</li></ul> |
|       | Row 4; column 1 will be empty.                                                                                                    |

### 3. CSV Tables

reStructuredText:

```

.. csv-table:: Frozen Delights!
:header: "Treat", "Quantity", "Description"
:widths: 15, 10, 30

"Albatross", 2.99, "On a stick!"
"Crunchy Frog", 1.49, "If we took the bones out, it wouldn't be
crunchy, now would it?"
"Gannet Ripple", 1.99, "On a stick!"

```

*Frozen Delights!*

| Treat         | Quantity | Description                                                     |
|---------------|----------|-----------------------------------------------------------------|
| Albatross     | 2.99     | On a stick!                                                     |
| Crunchy Frog  | 1.49     | If we took the bones out, it wouldn't be crunchy, now would it? |
| Gannet Ripple | 1.99     | On a stick!                                                     |

#### 4. List Tables

reStructuredText:

```

.. list-table:: Frozen Delights!
:widths: 15 10 30
:header-rows: 1

* - Treat
  - Quantity
  - Description
* - Albatross
  - 2.99
  - On a stick!
* - Crunchy Frog
  - 1.49
  - If we took the bones out, it wouldn't be
    crunchy, now would it?
* - Gannet Ripple
  - 1.99
  - On a stick!

```

*Frozen Delights!*

| Treat        | Quantity | Description                                                     |
|--------------|----------|-----------------------------------------------------------------|
| Albatross    | 2.99     | On a stick!                                                     |
| Crunchy Frog | 1.49     | If we took the bones out, it wouldn't be crunchy, now would it? |

| Treat         | Quantity | Description |
|---------------|----------|-------------|
| Gannet Ripple | 1.99     | On a stick! |

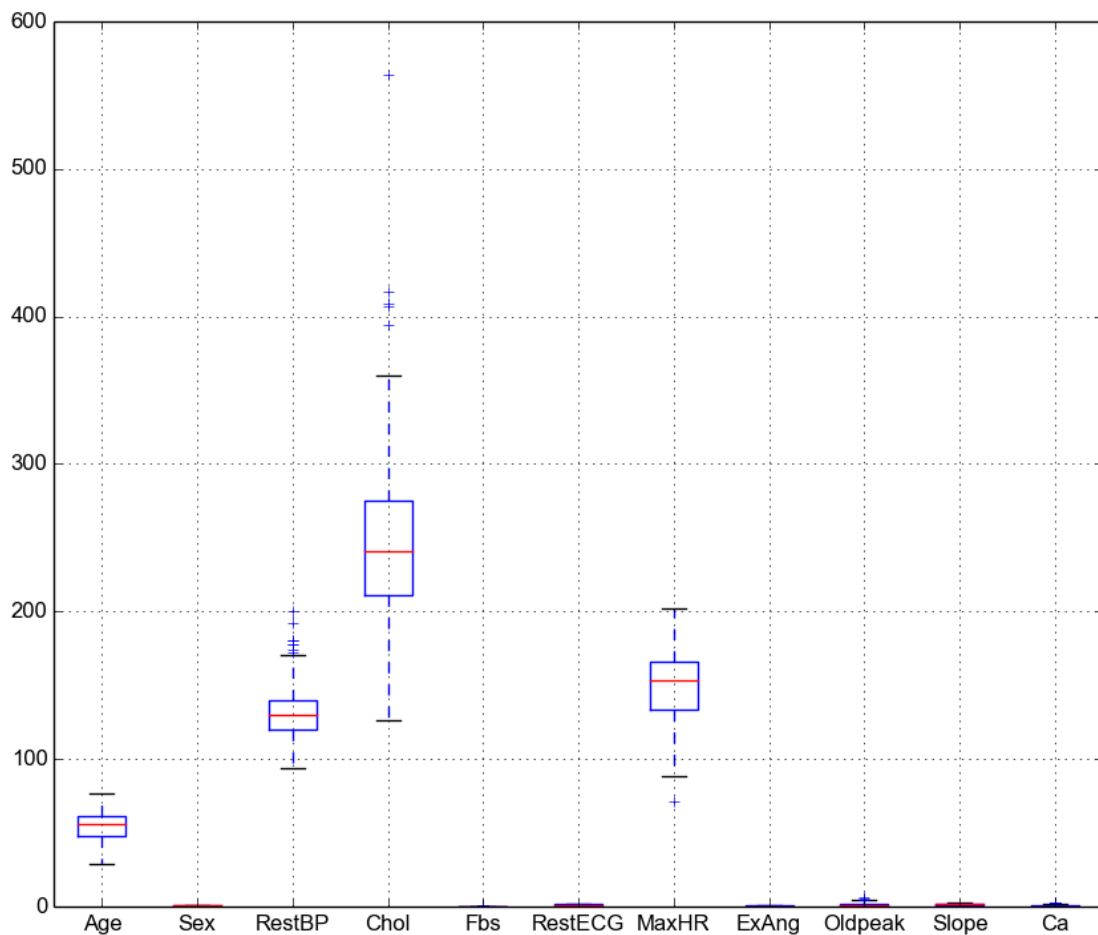
## 5.1.4. Images and Figures

There are two image directives: `image` and `figure`. More details can be found at: <http://docutils.sourceforge.net/docs/ref/rst/directives.html#image>.

### 1. Simple import

reStructuredText:

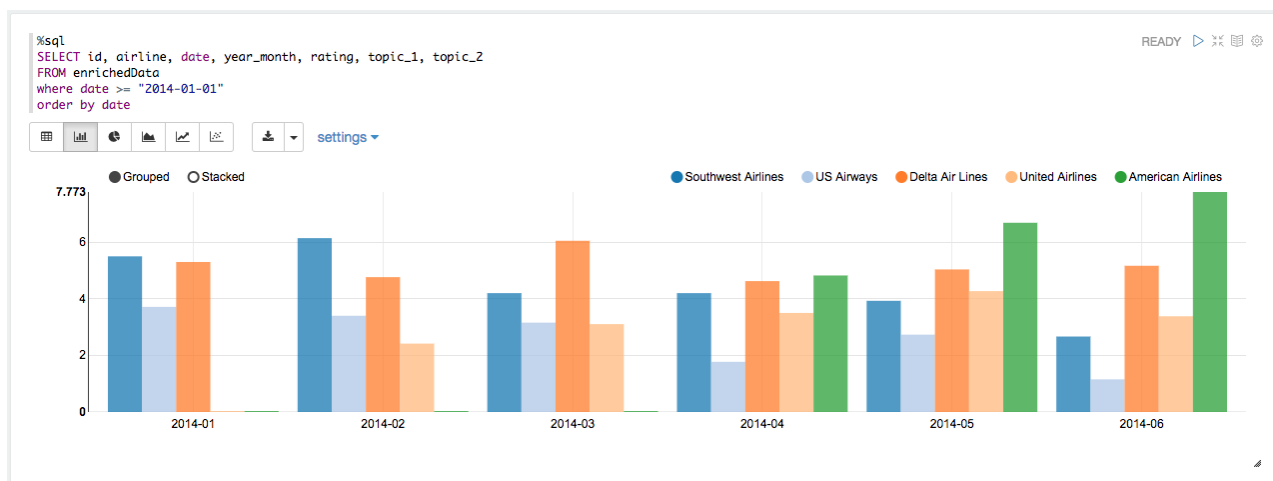
```
.. image:: images/boxp.png
```



reStructuredText:

```
.. figure:: images/avg_rating_mon.png
:scale: 50 %
:alt: map to buried treasure
```

This is the caption of the figure (a simple paragraph).



This is the caption of the figure (a simple paragraph).

## 2. Complex import

reStructuredText:

```
.. figure:: images/boxp.png
:height: 400 px
:width: 800 px
:scale: 50 %
:alt: alternate text
:align: right
```

This is the caption of the figure (a simple paragraph).

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

```
.. figure:: images/boxp.png
:height: 400 px
:width: 800 px
:scale: 50 %
:alt: alternate text
:align: center
```

This is the caption of the figure (a simple paragraph).

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

```
.. figure:: images/boxp.png
:height: 400 px
:width: 800 px
:scale: 50 %
:alt: alternate text
:align: left
```

This is the caption of the figure (a simple paragraph).

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Images and Figures Images and Figures Images and Figures Images and Figures Images and Figures

Result:

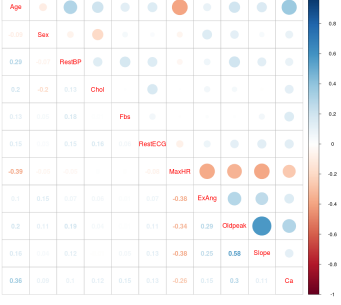


### 3. Figures in table

reStructuredText:

```
+-----+
| Figures                               | Description           |
+-----+-----+
| .. figure:: images/corr.png          | Figure 1: test       |
| :scale: 20 %                          |                       |
+-----+-----+
| .. image:: images/corr.png           | Figure 2: test       |
| :scale: 20 %                          |                       |
+-----+-----+
| .. image:: images/corr.png           | Figure 3: test       |
| :scale: 20 %                          |                       |
+-----+-----+
```

Result:

| Figures                                                                             | Description    |
|-------------------------------------------------------------------------------------|----------------|
|   | Figure 1: test |
|  | Figure 2: test |
|  | Figure 3: test |

## 5.1.5. Math

The math role marks its content as mathematical notation (inline formula). More details can be found at: <http://www.sphinx-doc.org/es/stable/ext/math.html>.

The input language for mathematics is LaTeX markup. I will not do a LaTeX tutorial as here.

### 1. Inline formula

reStructuredText:

```
The area of a circle is :math:`A_{\text{c}} = (\pi/4) d^2`.
```

RResult:

The area of a circle is  $A_c = (\pi/4)d^2$ .

### 2. Equations

reStructuredText:

```
.. math::  
   :label: eq_lin_cost_func  
  
   \min _{\beta \in \mathbb {R} ^{p}}{\frac {1}{n}}\|\hat {X}\beta -\hat {Y}\|^2  
  
The equation :eq:`eq_lin_cost_func` is the cost function for linear regression.
```

Result:

$$(1) \min_{\beta \in \mathbb{R}^p} \frac{1}{n} \|\hat{X}\beta - \hat{Y}\|^2$$

The equation (1) is the cost function for linear regression.

### 3. User defined symbol and equation

Add your definitions to the `latex_elements['preamble']` and `imgmath_latex_preamble`, then you can apply your own notations for symbol and equations.

my definitions for  $\mathcal{B}$  symbol and  $e^{i\pi} + 1 = 0$  equation:



```
'\def\B{\bf \mathcal B}\n'+ \n'
'\def\euler{\ e^{i\pi} + 1 = 0}\n'
```

reStructuredText:

The is a test for the user defined math symbol: `:math:`\B``.

The is a test for the user defined math equation:

```
.. math::
```

```
\euler
```

The is a test for the user defined math symbol:  $\mathcal{B}$ .

The is a test for the user defined math equation:

$$e^{i\pi} + 1 = 0$$

#### 4. More examples

reStructuredText:

```

.. math::

    f(x)
    =
    \Biggl \lbrace
    {
    0, \text{ if }
    { x > 0}
    \atop
    1 \text{ otherwise }
    }

.. math::

(a + b)^2 &= (a + b)(a + b) \\
          &= a^2 + 2ab + b^2

.. math::
:nowrap:

\begin{eqnarray}
y &= & ax^2 + bx + c \nonumber \\
f(x) &= & x^2 + 2xy + y^2 \nonumber
\end{eqnarray}

.. math:: e^{i\pi} + 1 = 0
:label: euler

```

Result:

$$f(x) = \begin{cases} 0, & \text{if } x > 0 \\ 1 & \text{otherwise} \end{cases}$$

$$\begin{aligned} (a + b)^2 &= (a + b)(a + b) \\ &= a^2 + 2ab + b^2 \end{aligned}$$

$$\begin{aligned} y &= ax^2 + bx + c \\ f(x) &= x^2 + 2xy + y^2 \end{aligned}$$

$$(2) \quad e^{i\pi} + 1 = 0$$

## 5.1.6. Source Codes

### 1. Source code block

reStructuredText:

```
.. code-block:: python
```

```
'''
This is a source Python code demo for Sphinx.
@date: Apr 25, 2016
@author: Wenqiang Feng
'''

import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from pandas.tools.plotting import scatter_matrix
from docutils.parsers.rst.directives import path

if __name__ == '__main__':

    print("This is a source Python code demo for Sphinx.")
```

Result:

```
'''
This is a source Python code demo for Sphinx.
@date: Apr 25, 2016
@author: Wenqiang Feng
'''

import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from pandas.tools.plotting import scatter_matrix
from docutils.parsers.rst.directives import path

if __name__ == '__main__':

    print("This is a source Python code demo for Sphinx.")
```

reStructuredText:

```
.. code-block:: r

    '''
    This is a source R code demo for Sphinx.
    @date: Apr 25, 2016
    @author: Wenqiang Feng
    '''

    library(reshape2)
    library(ggplot2)

    # import data
    d <- melt(diamonds[,-c(2:4)])
    # plot histogram
    ggplot(d,aes(x = value)) +
      facet_wrap(~variable,scales = "free_x") +
      geom_histogram()

    print("This is a source R code demo for Sphinx.")
```

```
'''
This is a source R code demo for Sphinx.
@date: Apr 25, 2016
@author: Wenqiang Feng
'''

library(reshape2)
library(ggplot2)

# import data
d <- melt(diamonds[,-c(2:4)])
# plot histogram
ggplot(d,aes(x = value)) +
  facet_wrap(~variable,scales = "free_x") +
  geom_histogram()

print("This is a source R code demo for Sphinx.")
```

## 2. Source code import

- Python Source code

reStructuredText:

```
.. literalinclude:: code/sourceCodePy.py
   :language: python
```

Result:

```

'''
This is a source Python code demo for Sphinx.
@date: Apr 25, 2016
@author: Wenqiang Feng
'''

import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from pandas.tools.plotting import scatter_matrix
from docutils.parsers.rst.directives import path

if __name__ == '__main__':

    print("This is a source Python code demo for Sphinx.")

```

- R Source code

reStructuredText:

```

.. literalinclude:: code/sourceCodeR.R
   :language: r

```

Result:

```

'''
This is a source R code demo for Sphinx.
@date: Apr 25, 2016
@author: Wenqiang Feng
'''

library(reshape2)
library(ggplot2)

# import data
d <- melt(diamonds[, -c(2:4)])
# plot histogram
ggplot(d, aes(x = value)) +
  facet_wrap(~variable, scales = "free_x") +
  geom_histogram()

print("This is a source R code demo for Sphinx.")

```

## 5.1.7. Reference

### 1. Paper reference

reStructuredText:

```
.. [Ref] Book or article reference, URL or whatever.
```

```
Lorem ipsum [Ref]_ dolor sit amet.
```

Result:

[Ref] Book or article reference, URL or whatever.

Lorem ipsum [Ref] dolor sit amet.

I would refer the reader to [Sphinx2019] for more details.

## 2. Equation reference

reStructuredText:

```
.. math::
   :label: eq_condition

   f(x)
   =
   \Biggl \lbrace
   {
   0, \text{ if }
     { x > 0}
   \atop
   1 \text{ otherwise }
   }
```

```
The Equation :eq:`eq_condition` is the definition of :math:`f(x)`.
```

Result:

$$(3) \quad f(x) = \begin{cases} 0, & \text{if } x > 0 \\ 1 & \text{otherwise} \end{cases}$$

The Equation (3) is the definition of  $f(x)$ .

## 4. Figure reference

reStructuredText:

```

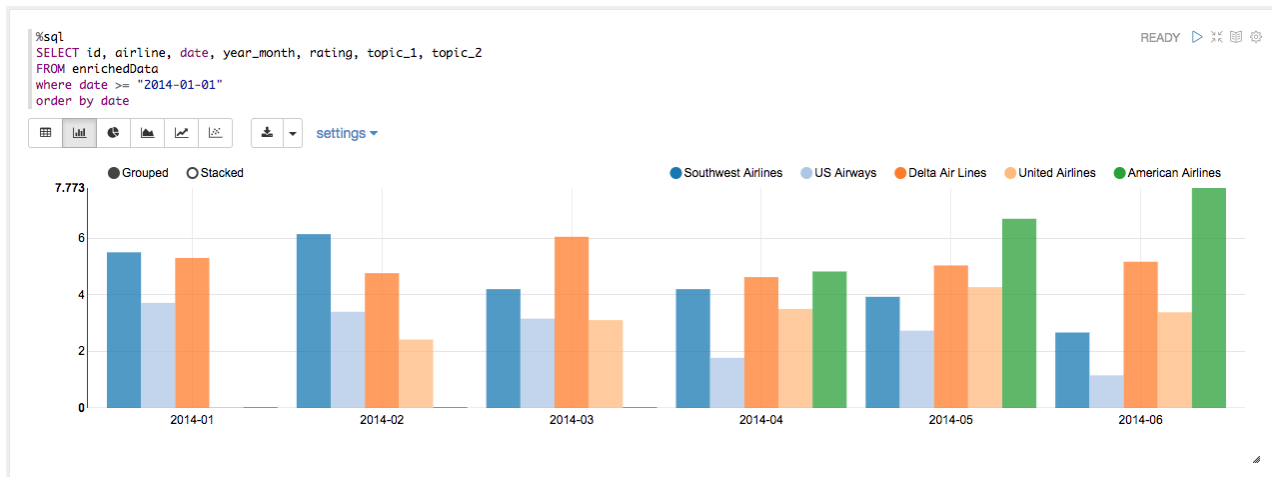
.. _fig_hist_demo:
.. figure:: images/avg_rating_mon.png
   :scale: 50 %
   :alt: map to buried treasure

```

The histogram of the gouped dataset

The Figure. `:ref: `fig_hist_demo`` is the histogram of the gouped dataset.

Result:



The histogram of the gouped dataset

The Figure. [The histogram of the gouped dataset](#) is the histogram of the gouped dataset.

## 5. Table reference

reStructuredText:

```

.. _table_demo:
.. table:: The general table demo

```

```

+-----+-----+-----+-----+
| Header row, column 1 | Header 2 | Header 3 | Header 4 |
| (header rows optional) | | | |
+=====+=====+=====+=====+
| body row 1, column 1 | column 2 | column 3 | column 4 |
+-----+-----+-----+-----+
| body row 2 | Cells may span columns. |
+-----+-----+-----+-----+
| body row 3 | Cells may | - Table cells |
+-----+-----+-----+-----+
| body row 4 | | - contain |
| | | - body elements. |
+-----+-----+-----+-----+

```

Please see the above Table. `:ref: `table_demo``.

Result:

*The general table demo*

| Header row, column 1 (header rows optional) | Header 2                | Header 3                                                                                                 | Header 4 |
|---------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------|----------|
| body row 1, column 1                        | column 2                | column 3                                                                                                 | column 4 |
| body row 2                                  | Cells may span columns. |                                                                                                          |          |
| body row 3                                  | Cells may span rows.    | <ul style="list-style-type: none"><li>• Table cells</li><li>• contain</li><li>• body elements.</li></ul> |          |
| body row 4                                  |                         |                                                                                                          |          |

Please see the above Table. [The general table demo](#).

## 6. Footnotes

reStructuredText:

```
Lorem ipsum [#f1]_ dolor sit amet ... [#f2]_

.. rubric:: Footnotes

.. [#f1] Text of the first footnote.
.. [#f2] Text of the second footnote.
```

Result:

Lorem ipsum <sup>[1]</sup> dolor sit amet ... <sup>[2]</sup>

## Footnotes

[1] Text of the first footnote.

[2] Text of the second footnote.

## 7. Hyperlinks

- General hyperlink

reStructuredText:



You are more than welcome to visit my personal webpage: ``Feng Website`_`.

.. `_Feng Website:` <http://web.utk.edu/~wfeng1/>

Result:

You are more than welcome to visit my personal webpage: [Feng Website](#).

- Embedded Youtube link:

reStructuredText:

```
.. raw:: html

    <iframe width="700" height="315"
    src="https://www.youtube.com/embed/mrEee4bhc7Y"
    frameborder="0" allowfullscreen></iframe>
```

Result:

Diana Wang (王詩安) - HOME (Official Music Video)



**Warning**

You have to use the hyperlink: `https://www.youtube.com/embed/` + `name` .

## 5.2. Roles

A role or “custom interpreted text role” is an inline piece of explicit markup. It signifies that that the enclosed text should be interpreted in a specific way. Sphinx uses this to provide semantic markup and cross-referencing of identifiers, as described in the appropriate section. More details can be found at: <http://docutils.sourceforge.net/docs/ref/rst/roles.html#customization>

### 5.2.1. Standard Roles

- Line markup

reStructuredText:

```
* emphasis - equivalent of *emphasis*
* strong - equivalent of **strong**
* literal - equivalent of ``literal``
* subscript - H\ :sub:`2`\ 0
* superscript - E = mc\ :sup:`2`
* title-reference - for titles of books, periodicals, and other materials
```

Result:

- emphasis – equivalent of *emphasis*
- strong – equivalent of **strong**
- literal – equivalent of `literal`
- subscript – H<sub>2</sub>O
- superscript – E = mc<sup>2</sup>
- title-reference – for titles of books, periodicals, and other materials

### 5.2.2. Specialized Roles

- raw

reStructuredText:

```
.. raw:: html

<iframe width="700" height="315"
src="https://www.youtube.com/embed/2Mg8QD0F1dQ"
frameborder="0" allowfullscreen></iframe>
```

Result:

## Bootstrap aggregating bagging



reStructuredText:

```
.. role:: raw-html(raw)
   :format: html

If there just has to be a line break here,
:raw-html:`<br />`
it can be accomplished with a "raw"-derived role.
But the line block syntax should be considered first.
```

Result:

If there just *has* to be a line break here,  
it can be accomplished with a “raw”-derived role. But the line block syntax should be considered first.

- **replace**

reStructuredText:

```
.. |sphinx| replace:: Sphinx
.. |reST| replace:: reStructuredText

|reST| is awesome!
```

Sphinx and reStructuredText are awesome!

## 5.3. Directives

A directive is a generic block of explicit markup. Along with roles, it is one of the extension mechanisms of reST, and Sphinx makes heavy use of it.

### 5.3.1. Admonitions

Admonitions: `attention`, `caution`, `danger`, `error`, `hint`, `important`, `note`, `tip`, `warning`

- **attention**

reStructuredText:

```
.. attention::

    You neen to pay attention at here!
```

Result:

#### Attention

You neen to pay attention at here!

- **caution**

reStructuredText:

```
.. caution::

    This is a caution alert!
```

Restlut:

## ⚠ Caution

This is a caution alert!

- **important**

reStructuredText:

```
.. important::  
    This is important!
```

Result:

## ⚠ Important

This is important!

- **User defined admonition**

reStructuredText:

```
.. admonition:: User defined name  
    You can make up your own admonition too.
```

Result:

## ⚠ User defined name

You can make up your own admonition too.

- **seealso**

reStructuredText:

```
.. seealso::
```

```
The authoritative `reStructuredText User Documentation
<http://docutils.sourceforge.net/rst.html>`. The "ref" links in this
document link to the description of the individual constructs in the reST
reference.
```

Result:

### ! See also

The authoritative [reStructuredText User Documentation](#). The “ref” links in this document link to the description of the individual constructs in the reST reference.

See more details at [Admonitions](#).

## 5.3.2. Hiddencode

reference: <https://sphinxcontrib-contentui.readthedocs.io/en/latest/index.html>

reStructuredText:

```
.. toggle-header::
```

```
  :header: Example 1 Show/Hide Code
```

```
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor
incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis
nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.
Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu
fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in
culpa qui officia deserunt mollit anim id est laborum
```

Example 1 [Show/Hide Code](#) ▼

## 5.3.3. Options

reStructuredText:

```
.. content-tabs::
```

```
.. tab-container:: ex1
```

```
  :title: Example 1
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum

```
.. tab-container:: ex2
```

```
  :title: Example 2
```

Sed ut perspiciatis, unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam eaque ipsa, quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt, explicabo. Nemo enim ipsam voluptatem, quia voluptas sit, aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos, qui ratione voluptatem sequi nesciunt, neque porro quisquam est, qui dolorem ipsum, quia dolor sit, amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt, ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit, qui in ea voluptate velit esse, quam nihil molestiae consequatur, vel illum, qui dolorem eum fugiat, quo voluptas nulla pariatur? At vero eos et accusamus et iusto odio dignissimos ducimus, qui blanditiis praesentium voluptatum deleniti atque corrupti, quos dolores et quas molestias excepturi sint, obcaecati cupiditate non provident, similique sunt in culpa, qui officia deserunt mollitia animi, id est laborum et dolorum fuga. Et harum quidem rerum facilis est et expedita distinctio. Nam libero tempore, cum soluta nobis est eligendi optio, cumque nihil impedit, quo minus id, quod maxime placeat, facere possimus, omnis voluptas assumenda est, omnis dolor repellendus. Temporibus autem quibusdam et aut officiis debitis aut rerum necessitatibus saepe eveniet, ut et voluptates repudiandae sint et molestiae non recusandae. Itaque earum rerum hic tenetur a sapiente delectus, ut aut reiciendis voluptatibus maiores alias consequatur aut perferendis doloribus asperiores repellat.

Example 1    Example 2

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum

reStructuredText:

```

.. content-tabs::

.. tab-container:: python
   :title: Python

   .. rubric:: Description for Python

.. tab-container:: php
   :title: PHP

   .. rubric:: Description for PHP

```

Python    PHP

## Description for Python

reStructuredText:

```

.. container:: content-tabs right-col

.. tab-container:: python
   :title: Python

   .. rubric:: import library

   .. code-block:: python

       import xgboost as xgb

   .. rubric:: Example request

   .. code-block:: python

       bst = xgb.train(param, dtrain, num_round, evallist)

.. tab-container:: r
   :title: r

   .. rubric:: import library

   .. code-block:: r

       require(xgboost)

   .. rubric:: Example request

   .. code-block:: r

       bstSparse <- xgboost(data = train$data, label = train$label, max.depth = 2,
eta = 1)

```



## Import library

```
import xgboost as xgb
```

## Train model

```
bst = xgb.train(param, dtrain, num_round, evallist)
```