The Book of N3C

The N3C Educational Committee

2022-06-06

Contents

Chapter 1

Preface

Something needs to go in the index page...

Chapter 2

Example Chapter

This chapter is to exemplify various kinds of content for the book of N3C, and serve as a style guide.

2.1 Subheadings

Chapter titles should use a level-1 heading, topics and sub-topics should use level-2 and level-3 headings, but level-4 headings and beyond are discouraged.

Praesent id gravida erat. Aliquam volutpat leo vel orci blandit iaculis. Proin ornare ut libero eu euismod. Vivamus in tellus imperdiet, ullamcorper nibh in, facilisis ex. Proin tempus ligula sed enim hendrerit fringilla. Proin nec libero purus. Aliquam eget vestibulum ante, et volutpat lectus. Pellentesque placerat justo et dui porttitor posuere. Ut sit amet tellus in massa maximus tincidunt.

Cras lobortis tellus suscipit odio fringilla molestie. Praesent tellus ante, lacinia quis pulvinar eu, mollis eu mi. Donec quis tincidunt nunc. Nulla facilisi. Quisque sed nisi est. Aliquam erat volutpat. Phasellus venenatis tellus sit amet consectetur congue. Proin eu vestibulum ex. Fusce sit amet neque sapien.

2.2 Code Blocks

Code blocks may be formatted for Python, R, or SQL. Make ample use of code comments. Example python block:

```
import pandas as pd

# Both pneumonia_concept_set and condition_occurrence_sample are input as pandas dataframes in th
```

```python
def pneumonia_conditions2(pneumonia_concept_set, condition_occurrence):

    # Use an inner join to pull condition_occurrence entries matching concepts in the p
    result = pd.merge(pneumonia_concept_set, condition_occurrence, how = "inner", left_

    # Calling print() results in output being logged to the "logs" tab
    print(result.describe())

    # Basic transforms should return a data frame (either pandas or spark)
    return result
```

Example R block:

```r
# Both pneumonia_concept_set and condition_occurrence_sample are input as R dataframes
pneumonia_conditions_result <- function(pneumonia_concept_set, condition_occurrence) {

    # Use an inner join to pull condition_occurrence entries matching concepts in the p
    result <- pneumonia_concept_set %>%
      inner_join(condition_occurrence, by = c("concept_id" = "condition_concept_id")) %
      # we also convert the condition_source_value to an integer, since the
      # conversion from spark's long type results in an R integer64 type, incompatible
      # many functions
      mutate(condition_source_value = as.integer(condition_source_value))

    p <- ggplot(result) +
      geom_histogram(aes(x = condition_end_date - condition_start_date))

    # an explicit call to plot() is needed to display the resulting ggplot
    plot(p)

    # the str() function is useful for identifying data contents and types
    print(str(result))

    return(result)
}
```

And an example SQL block:

```sql
-- filter the concept_set_members table input to select a single concept set version
SELECT *
FROM concept_set_members
WHERE codeset_id = 761347708
```

Output blocks (demonstrating logged output) should be uncolored:

```
'data.frame':   19502 obs. of  27 variables:
 $ codeset_id                   : int  761347708 761347708 761347708 761347708 761347708 7613477
 $ concept_id                   : int  255848 255848 255848 255848 255848 255848 255848 255848 25
 $ concept_set_name             : chr  "Non-influenza pneumonia [training]" "Non-influenza pneumo
 $ is_most_recent_version       : logi  TRUE TRUE TRUE TRUE TRUE TRUE ...
 $ version                      : int  1 1 1 1 1 1 1 1 1 1 ...
 $ concept_name                 : chr  "Pneumonia" "Pneumonia" "Pneumonia" "Pneumonia" ...
 $ archived                     : logi  FALSE FALSE FALSE FALSE FALSE FALSE ...
 $ person_id                    : int  148 833 1088 1238 1829 2142 2659 3749 8086 9465 ...
...
```

2.3 Bullets and Lists

Unordered and ordered lists may be used, but they should be used sparingly and not a replacement for reader-friendly prose.

- Item 1
  - Subitem 1.1
  - Subitem 1.2
- Item 2
- Item 3

Ordered bullet list:

1. Item 1
   1. Subitem 1.1
   2. Subitem 1.2
2. Item 2
3. Item 3

2.4 Equations

We don't anticipate much need for equations, but just in case here's an example:

$$f(k) = \binom{n}{k} p^k (1-p)^{n-k} \tag{2.1}$$

2.5 Callouts

Callout blocks may be used to emphasize certain points, provide additional information, or other uses.

This is a Note callout.

2.5.1 Markdown in callouts

Markdown formatting can be used in callouts. Here's an example code block:

```
-- filter the concept_set_members table input to select a single concept set version
SELECT *
FROM concept_set_members
WHERE codeset_id = 761347708
```

Other callout types include `.rmdcaution`:

This is a Caution callout.

`.rmdimportant`:

This is an Important callout.

`.rmdtip`:

This is a Tip callout.

and `.rmdwarning`:

This is a Warning callout.

2.6 Screenshots and Images

Here's a screenshot:

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