

IST-687 Chapter Notes Template: After Completing Please Submit as a PDF.

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Class: M003

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Chapter Number: #1 2 and 3

Title of Chapter: About Data

Many Skills

Data science is a multi skills required multidimension science and the main thing is, what data should we collect, how are we processing and analyzing the data and finally, who does these outcome goes for.

Roundtable discussion for Lecture 1.1

a key thing in data science is that, convert unstructured data into structured data that we can process directly. Notice that unstructured data can contain more information than structured data.

Lecture 1.2 - Data Science Example

Given an example of the data's life cycle when you bought chocolate chips from supermarket. This introduce us to the four key parts of Data Science:

Data Architecture

Data Acquisition

Data Analysis

Data Archiving

Answer to the question:

Manufacture for producing more favorable cookies

Warehouse for getting more favored cookies and less unfavored cookies

Roundtable for Lecture 1.2

This video has extend the discussion on the example given last video. It shows us how would data science help with reducing the waste during produce-selling-buying circle and gives even more data on buyers behavior. It is a really good example of interaction between psychology and data science too! If the data are being used correctly(protecting privacy and transparently), the world would be better.And it reveals the complicity of the process of getting data, despite that we can have so much data, the majority of them is unstructured and needing processing.

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Lecture 1.3 - Data Science Overview Continued

You can't expect to learn everything through certain dataset. The key way to avoid the situation of boiling the ocean is to identify the domain and the key question, identify the SME and investigating in the outlier.

Lecture 1.4 - Getting Started with R

R is Free but not very stable to use because it is open sourced, that's why we had RStudio built from R. R is bad at revealing error message. A list need to be in same type/mode. No mix of integer and char.

R Coding 1.1 - Basic Commands

Introducing the basic panel of R and how to create vector.

<-

R Coding 1.2 - More Basic Commands

Introducing the basic calculate operator and use these operator on Boolean value.

R Coding 1.3 - Dealing with Error Messages

R Coding 1.3 - Dealing with Error Messages

Showing us how some of the error looks like. Remember to put"" around string.

R Coding 1.4 - Conditionals

Show us how to use if for a conditional output. The basic idea is run the statement, if it pass, output or operate the first lane, else, the second lane.

Exercise Review

Chapter1 challenge, Boolean logic is simple, pass is true, else is false. And, or , not, and exclusive or are operator used to apply for more complicate logic, for example, pass state1 and state2 and output something, else, output something else.

Chapter2 challenge, What is the most important thing in this domain? How does people usually interact in this domain? what do you expect to improve in this domain?

Chapter3 challenge,

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```
myFamilyAges <- c(43, 42, 12, 8, 5, 3)
```

R Code Fragment and Explanation

sum() gives the sum of integers

mean() gives the mean of list of integers

max() return the biggest integer of a list of integer

min() return the smallest integer of a list of integer

Question for Class

Some part of the template is redundant such that we had explain some functions in our chapter review but have to do it again on the exercise review and the Rcoding section... Can we just do it once? Also, I am wondering if I am doing the exercise correctly since that I currently haven't found a section of exercise in chapter 1 2 and 3 yet so I just do the challenges.