

# Dolanan Data #3 Preprocessing Data: Excel vs Python

Webinar Series by :



**DATA SCIENCE**  
ITTELKOM SURABAYA

**IT Telkom Surabaya**  
**Yayasan Pendidikan Telkom**

PRESENT

**Dolanan Data**  
Preprocessing Data:  
Excel vs Python

SABTU, 28 AGUSTUS 2021  
08.30 WIB

LIVE ON  
ZOOM MEETING

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**CAK MAW**  
Dosen Program Studi S1 Sains Data  
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**IT Telkom Surabaya**  
**Yayasan Pendidikan Telkom**

PRESENT

**Dolanan Data**  
Pengolahan Data Sederhana  
Dengan Python

SABTU, 21 AGUSTUS 2021  
08.30 WIB

LIVE ON  
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# Meet Me

## Mawanda Almuhayar

 Prodi Data Science, ITTelkom SBY

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 mawandaal

 wanderational



S1 Statistika (Ekonometrika)  
S2 Statistika (Komputasi Stat.)



S2 Statistika (Image)  
(Double Degree)



Dosen Prodi  
Data Science





# Outline

## Introduction

- Data Science Hierarchy of Needs
- Data Science Life Cycle
- Python vs Excel

## Coding

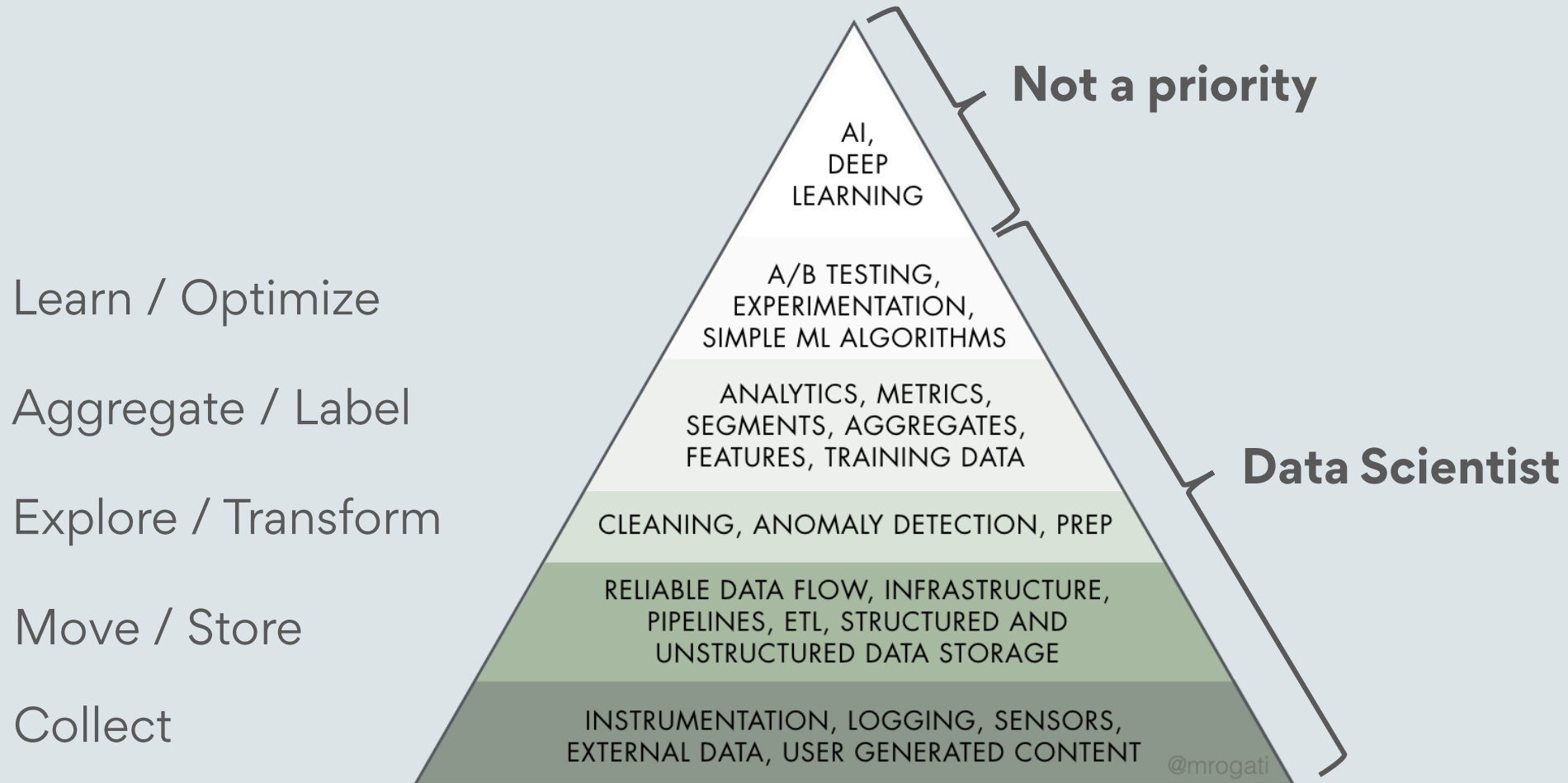


# Introduction

# Data Science Hierarchy of Needs

Hirarki Kebutuhan Ilmu Sains Data

Startup Companies

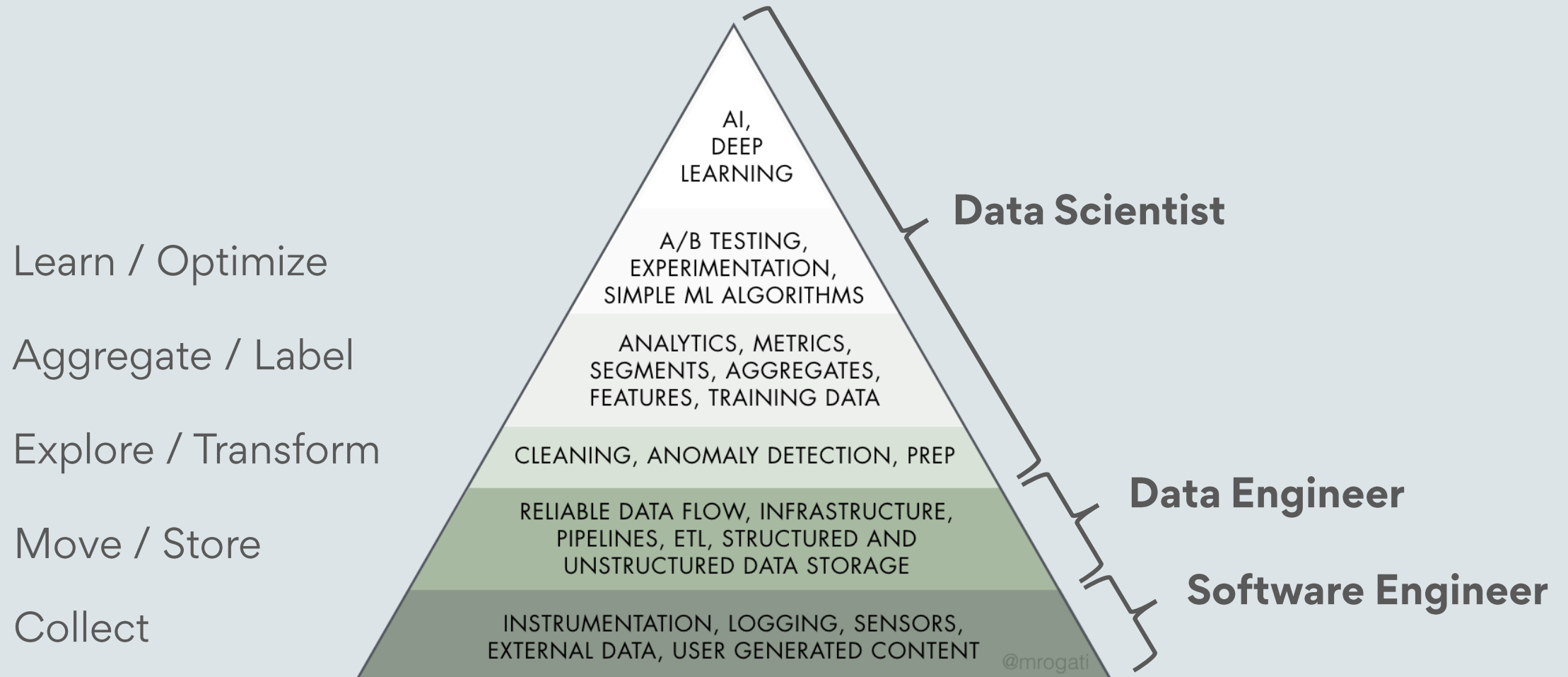




# Data Science Hierarchy of Needs (2)

Hirarki Kebutuhan Ilmu Sains Data (2)

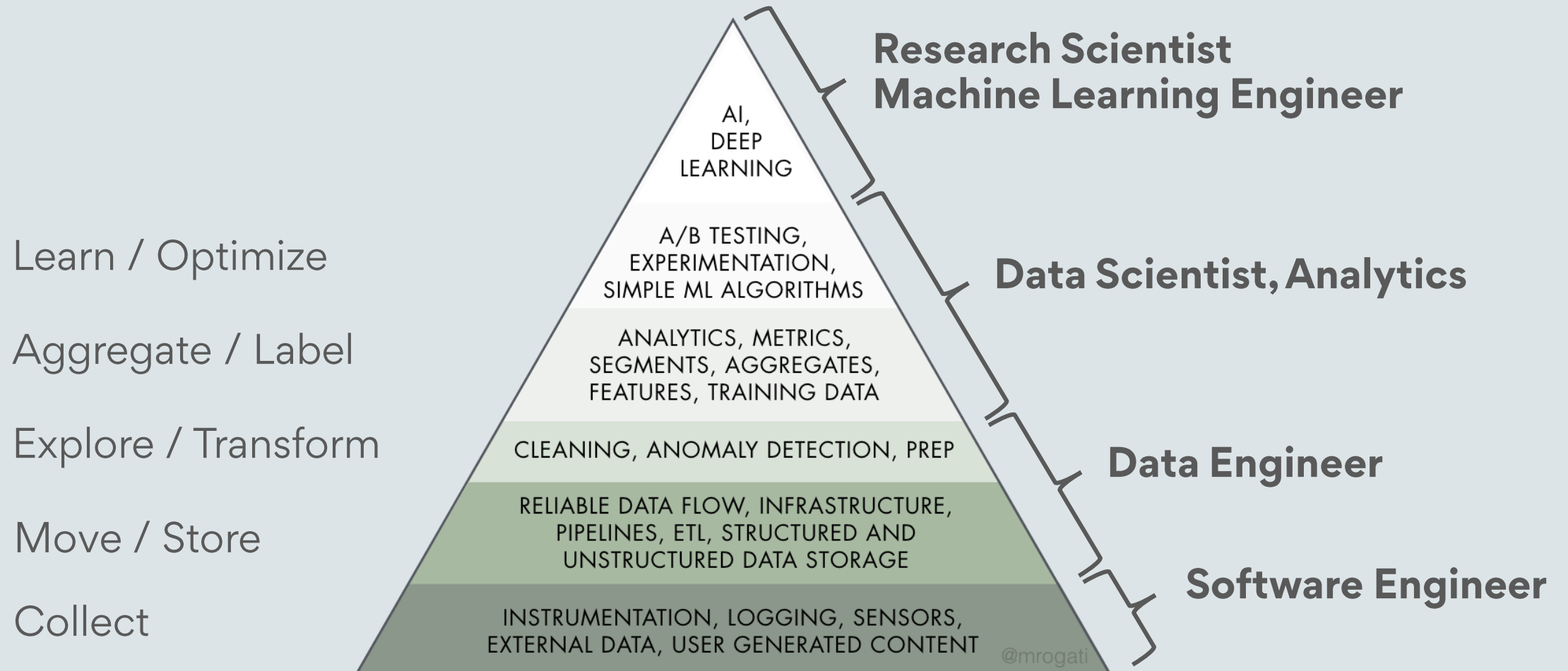
Medium-sized Companies



# Data Science Hierarchy of Needs (3)

Hirarki Kebutuhan Ilmu Sains Data (3)

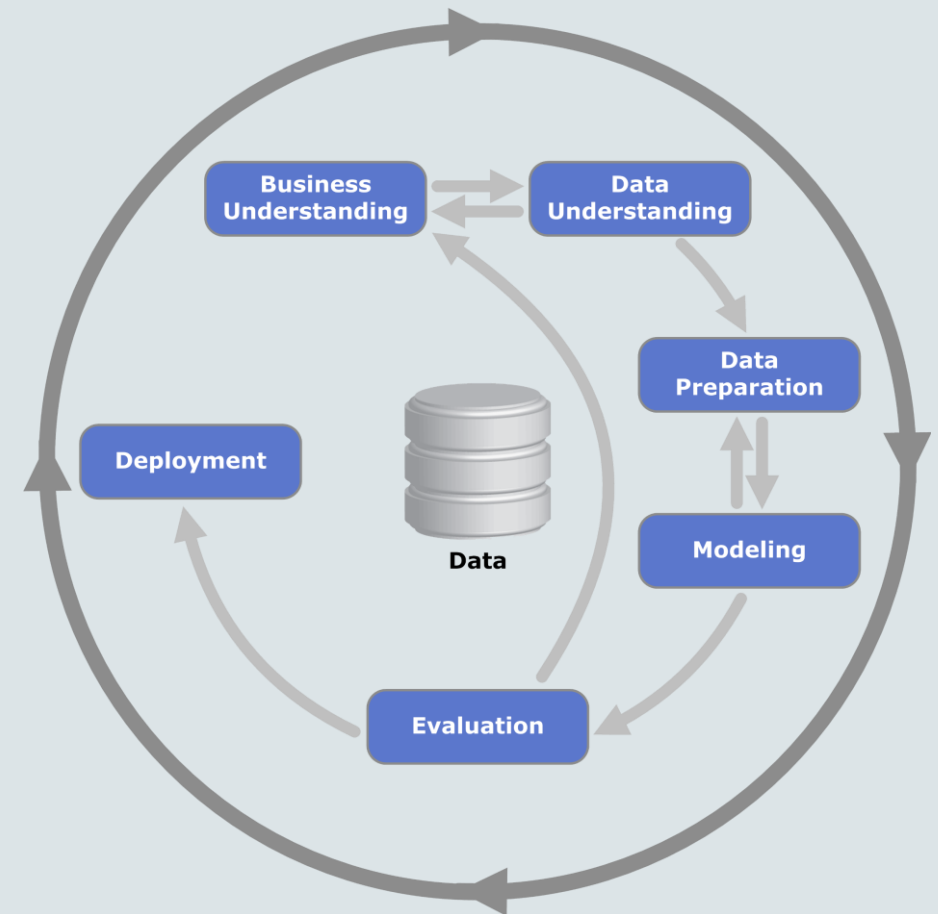
Large Companies



# Data Science Life Cycle/Process

Proses/Siklus Hidup Ilmu Sains Data

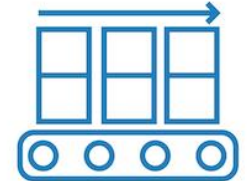
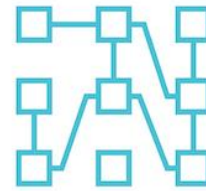
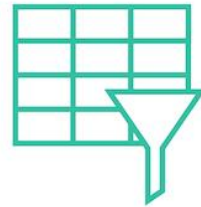
- **Business/Problem Understanding**  
What does the business/problem need?
- **Data Understanding**  
What data do we have / need? Is it clean?
- **Data preparation**  
How do we organize the data for modeling?
- **Modeling**  
What modeling techniques should we apply?
- **Evaluation**  
Which model best meets the business objectives?
- **Deployment**  
How do stakeholders access the results?





# Data Science Life Cycle/Process (2)

Proses/Siklus Hidup Ilmu Sains Data (2)

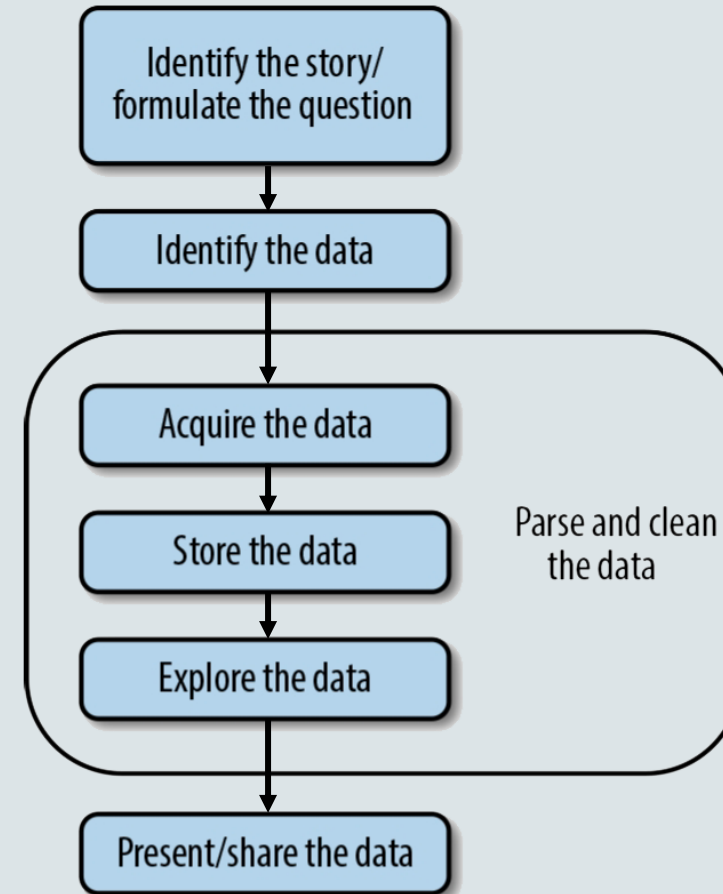


Business/ Problem Understanding	Data Understanding	Data Preparation	Modeling	Evaluation	Deployment
....	....	....	....	....	....
....	....	....	....	....	....
....	....	....	....	....	....
....	....	....	....	....	....
....	....	....	....	....	....

# Data Handling Process

Proses Penanganan Data

- Data Preparation
- Data Preprocessing
- Data Wrangling
- Data Munging
- Data Cleaning
- Data Exploration
- Exploratory Data Analysis



**50% of  
all process!**

# Excel: Advantage and Disadvantage

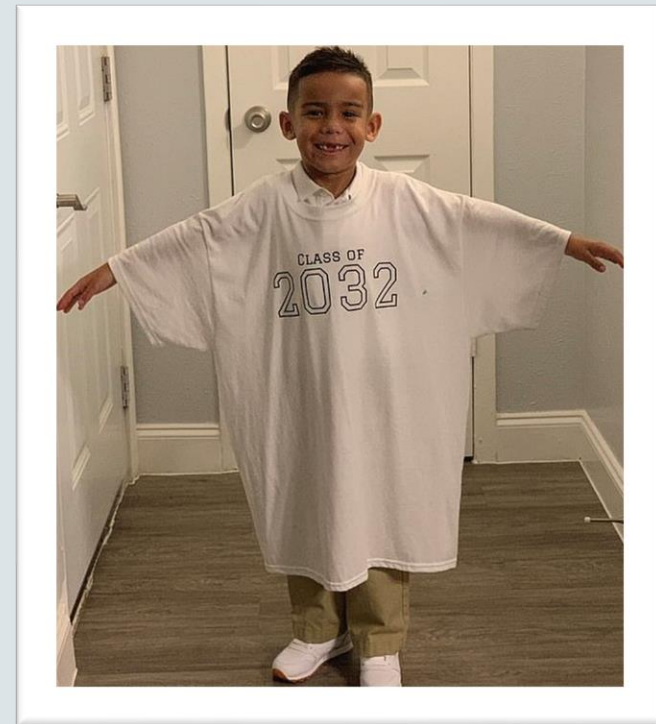
Kelebihan dan Kekurangan

## Pros:

- Widely known
- Easy to use because of GUI
- Many Built-In Features

## Cons:

- Not free



# Python: Advantage and Disadvantage

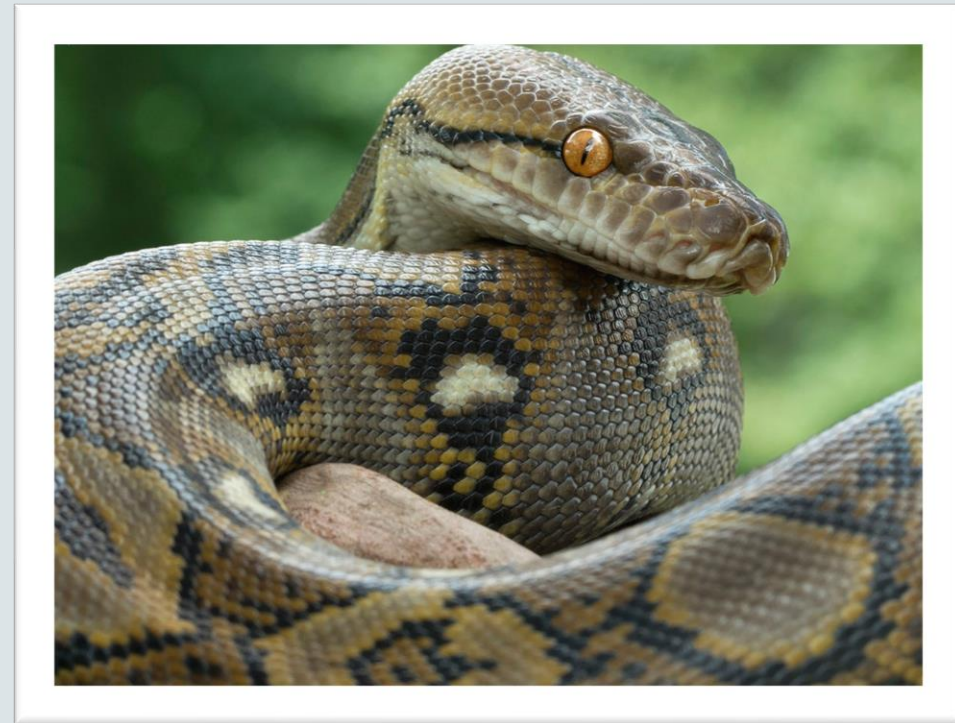
Kelebihan dan Kekurangan

## Pros:

- Free and Open Source
- High Level Programming Language
- Many Libraries

## Cons:

- Have to learn to code





# Pandas: Advantage and Disadvantage

Kelebihan dan Kekurangan

## Pros:

- Efficient handling of huge data
- Extensive features
- Made for Python

## Cons:

- Have to learn to code in Python



# Case Study

Studi Kasus

- **Clean the data**

- Handle missing value

- Check data type

- Transform the dataframe

- **Visualize the data with the plot**

Link to the data and notebook:

<https://github.com/mawandaal/dolanan-data>



**Let's Code**