



R-PROGRAMING FUNDAMENTAL & DATA ANALYTIC

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Agenda

01 Fundamental of R

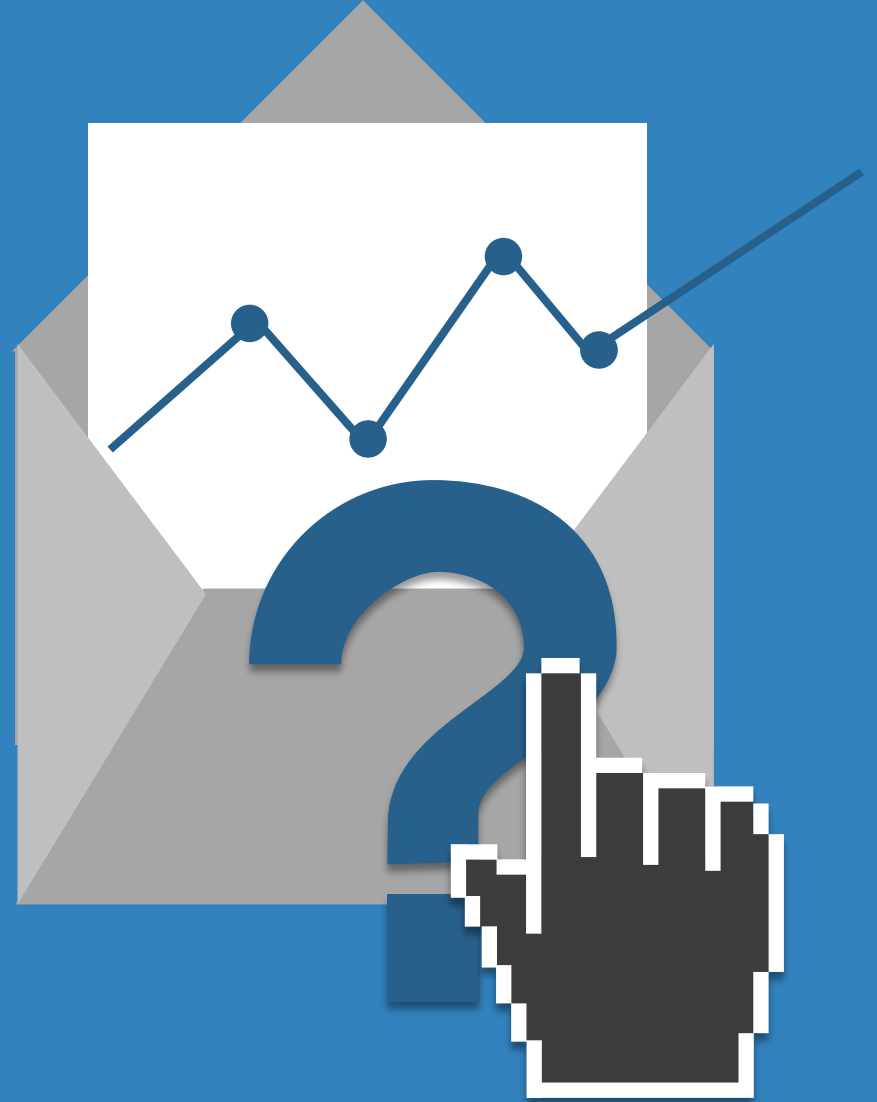
02 Data Analytic



What is R

R is a Language & Environment for Statistical Computing.

R provides a wide variety of statistical (linear and nonlinear modeling, classical statistical tests, time-series analysis, classification, clustering, ...) and graphical techniques, and is highly extensible.



Data science?

Making data work for you

Data science means using information around us to draw a conclusion



Use data to better describe the present or better predict the future

What can data do?

- Describe the current state of an organization or process
- Detect anomalous events
- Diagnose the causes of events and behaviors
- Predict future events

The data science workflow



Sources of data

Company data

- Collected by companies
- Helps them make data-driven decisions



Open data

- Free, open data sources
- Can be used, shared, and built-on by anyone



Company data

- Web events
- Survey data
- Customer data
- Logistics data
- Financial transactions



Open data source

APIS & PUBLIC RECORDS

Public data APIs

- Application Programming Interface
- Request data over the internet
- Twitter
- Wikipedia
- Yahoo! Finance
- Google Maps
- Many more!

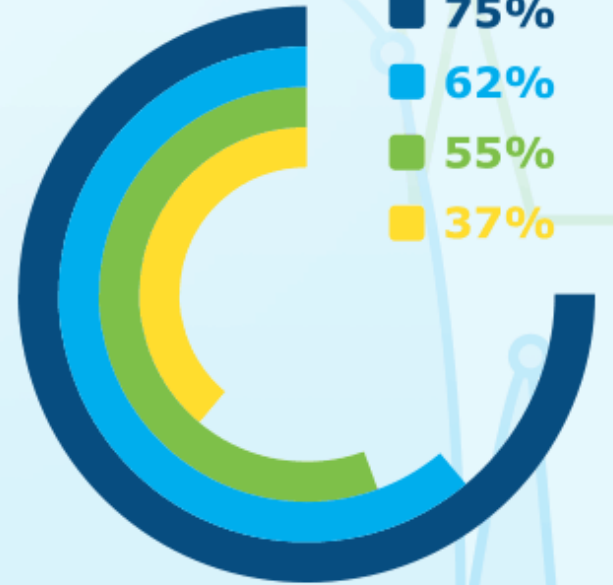
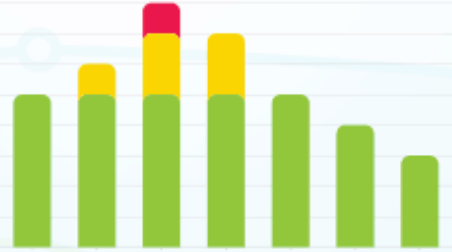
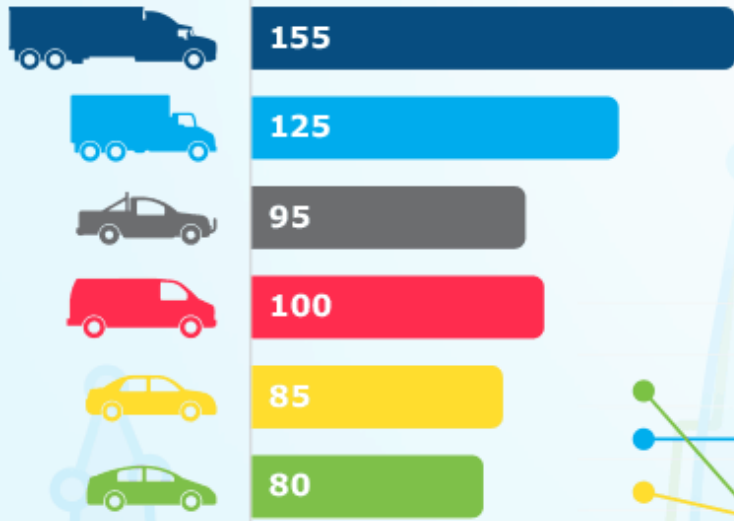
Public records

- International organizations
 - e.g.: World Bank, UN, WTO
- National statistical offices
 - e.g.: censuses, surveys
- Government agencies
 - e.g.: weather, environment, population

Why prepare data?

- Real-life data is messy
- Preparation is done to prevent:
 - errors
 - incorrect results
 - biasing algorithms





Data Visualization

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Thank You