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R AnalyticFlow

Interactive Data Analysis GUI for R

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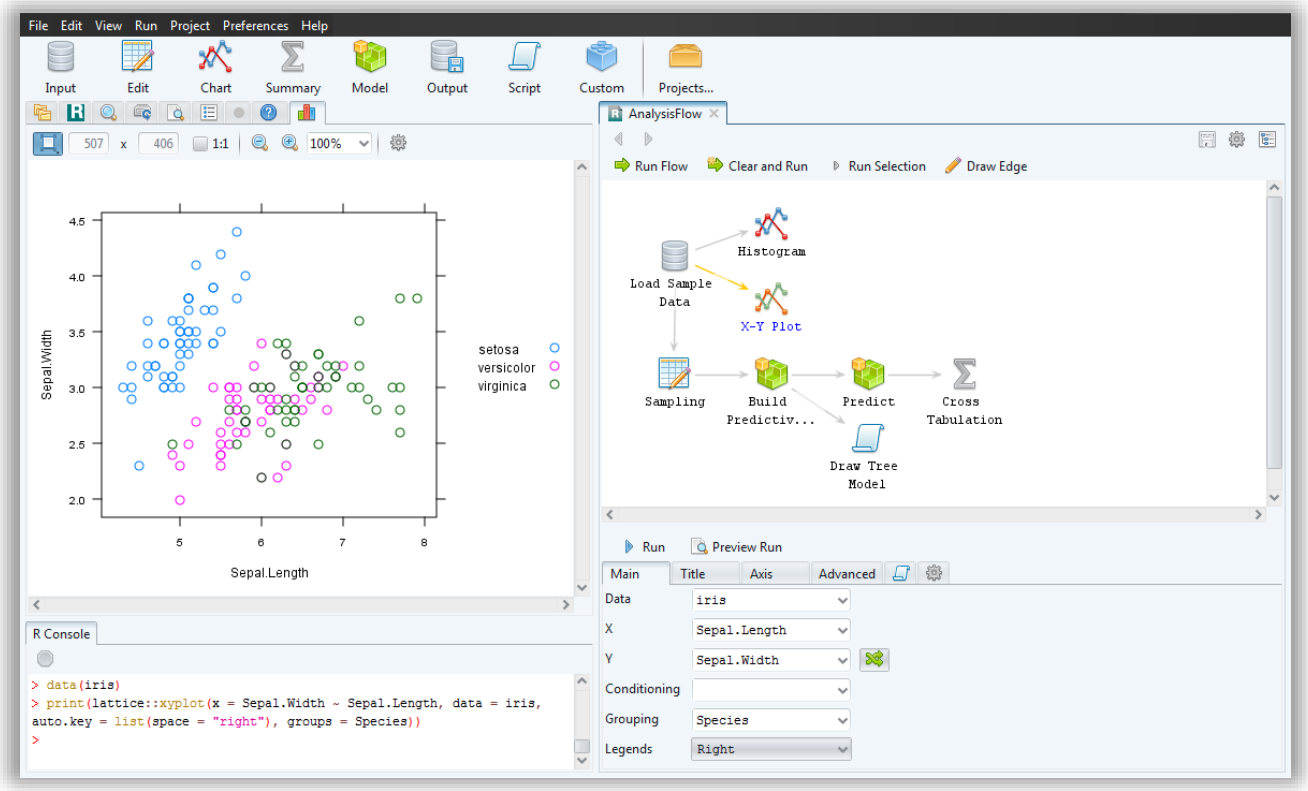
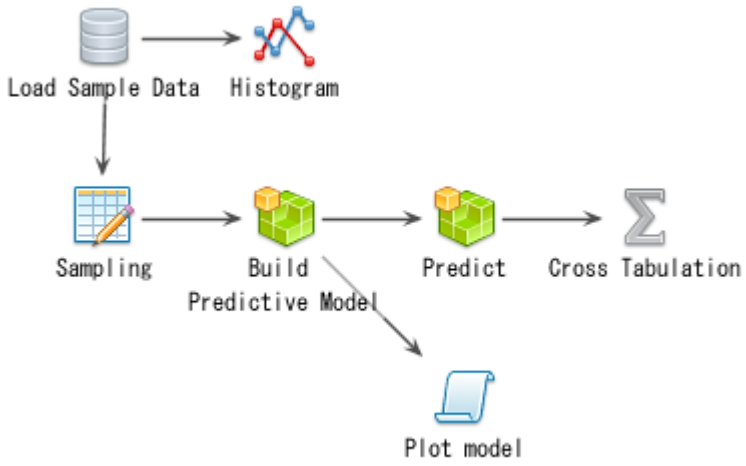
R AnalyticFlow is:

- Workflow-based GUI for R
  - Works on Windows / Linux / Mac
  - Open source (LGPL), written in Java



Analysis Workflow

The process of data analysis is expressed as a workflow.



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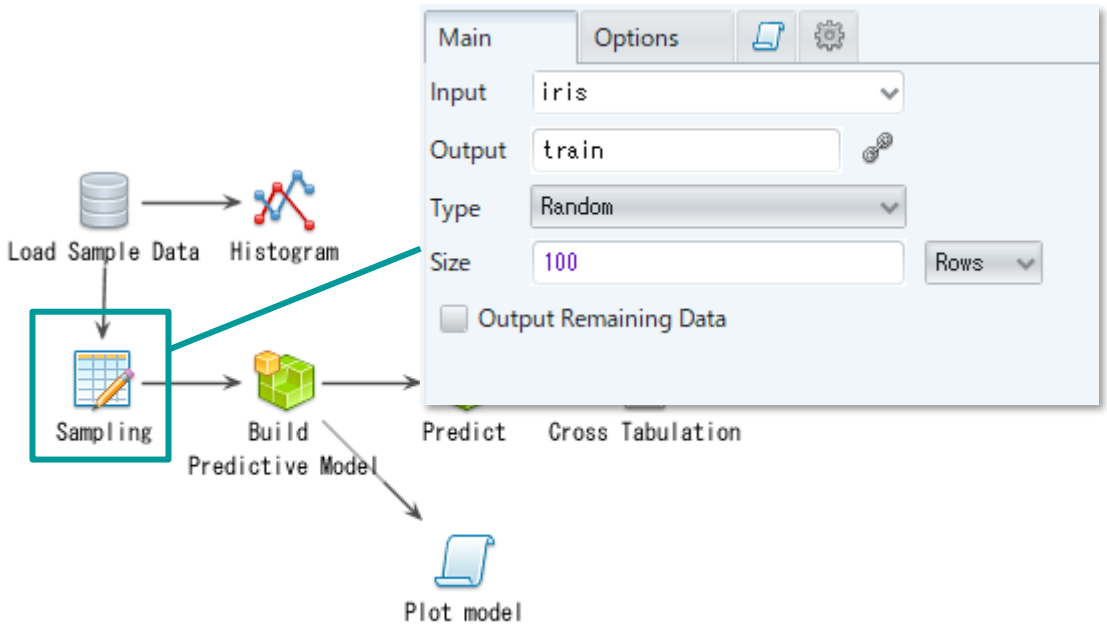
Analysis Workflow

Each “node” corresponds to an “operation”
which generates a piece of R code.



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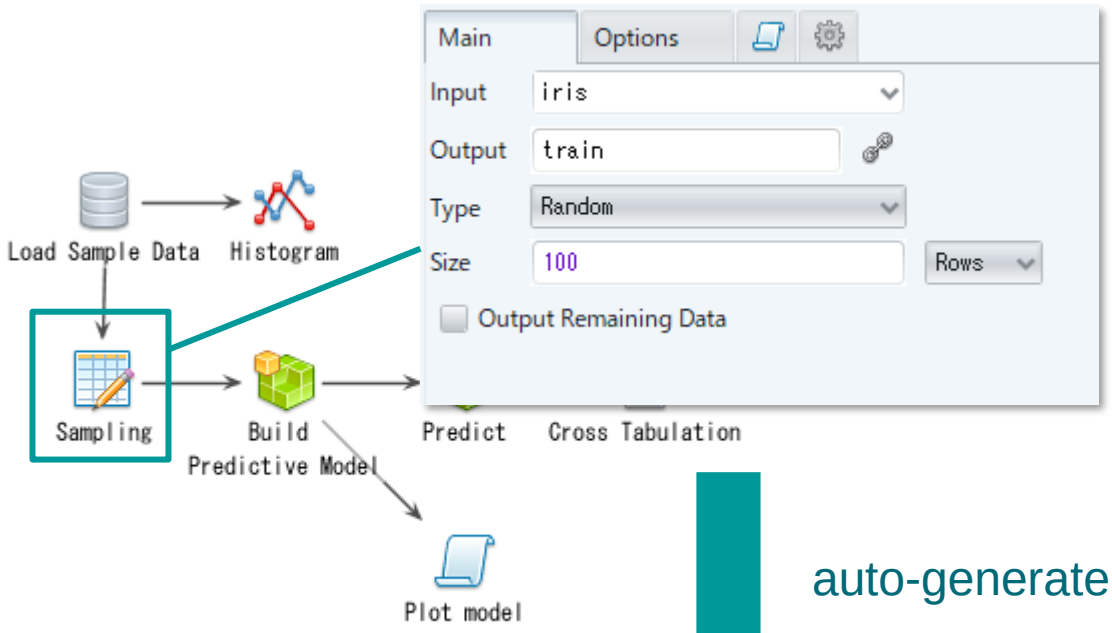
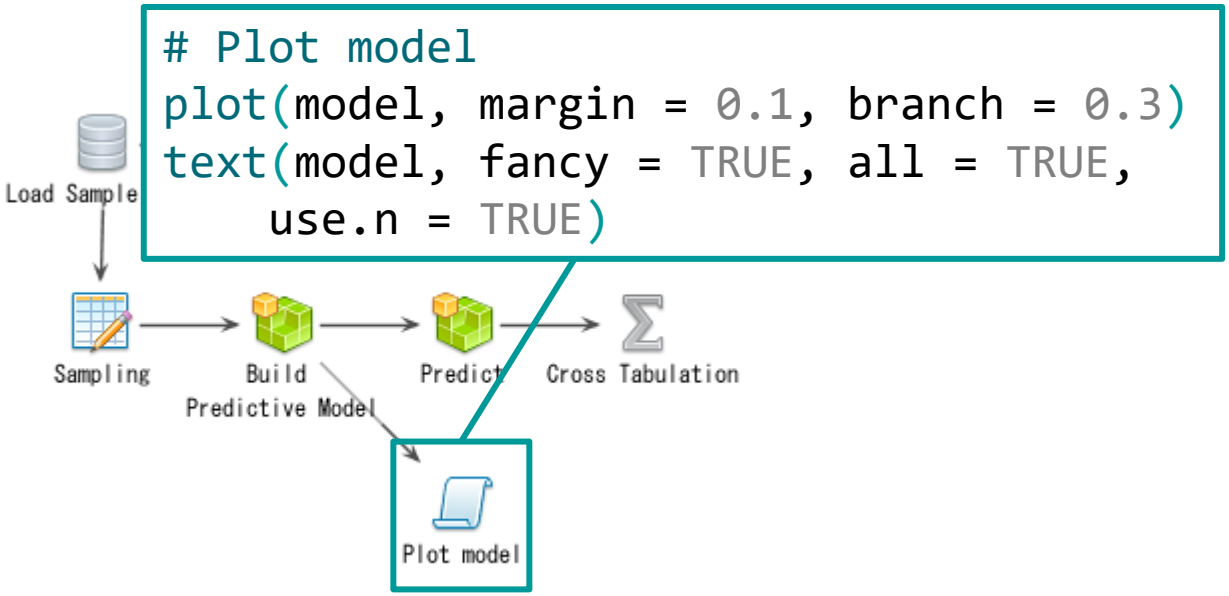



```
train <- iris[sort(sample(x = nrow(iris),
    size = 100, replace = FALSE)), , drop = FALSE]
```

Analysis Workflow

You can also include any R code as an “R script node”.



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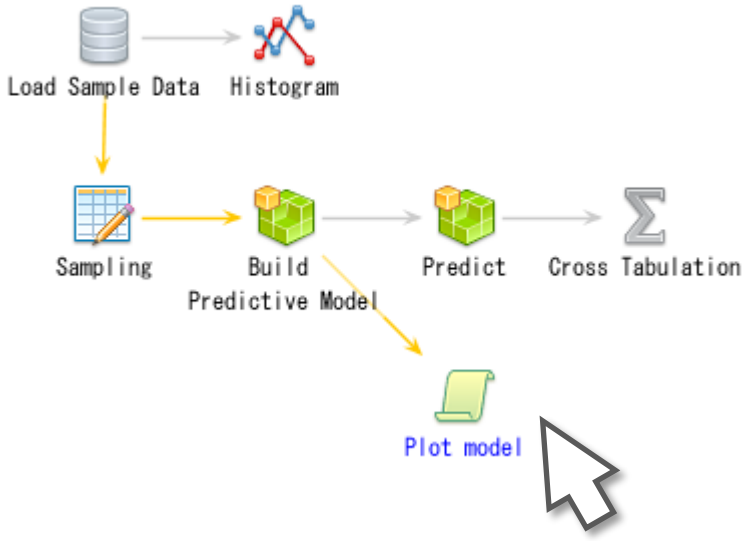
Analysis Workflow

You can run through the workflow from the “upper stream” of a selected node.



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Analysis Workflow

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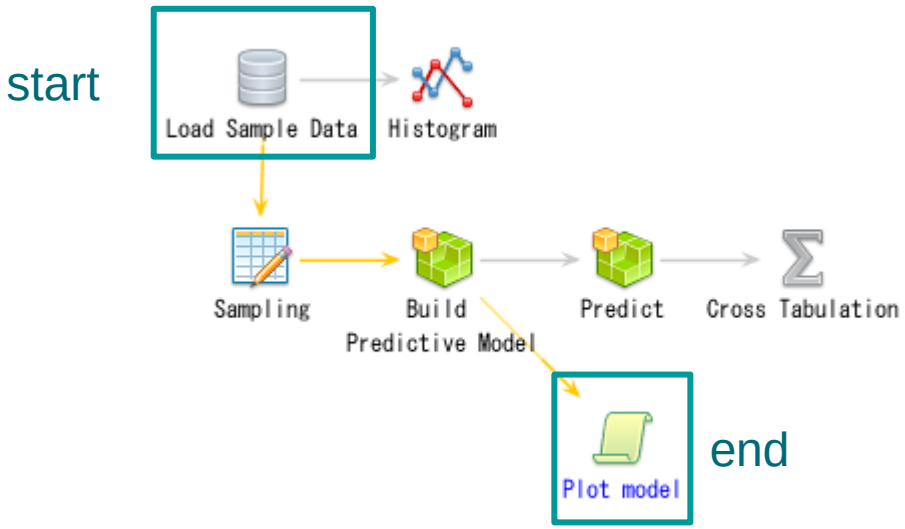

Analysis Workflow

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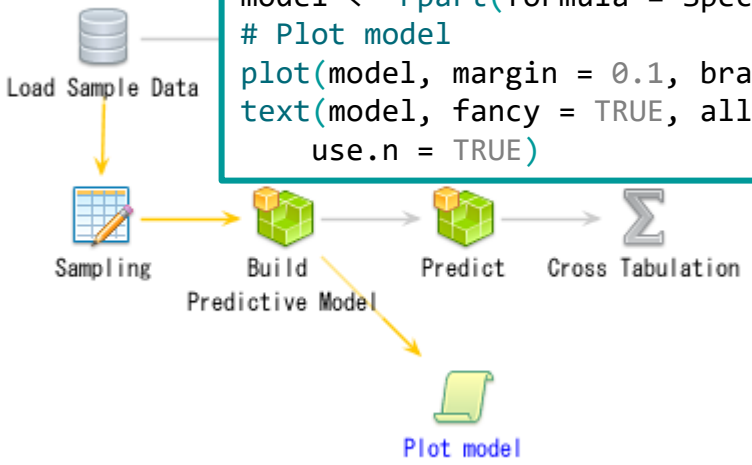

generated R script

```
data(iris)
train <- iris[sort(sample(x = nrow(iris),
    size = 100, replace = FALSE)), , drop = FALSE]
model <- rpart(formula = Species ~ ., data = train)
# Plot model
plot(model, margin = 0.1, branch = 0.3)
text(model, fancy = TRUE, all = TRUE,
    use.n = TRUE)
```

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Best Features

- Workflow
  - Visualize the process of data analysis
  - Good for trial and error
  - Easy reuse (reproducibility)
- Interactive
  - Analysis GUI + File/Object explorer
  - Try before planning
- Full functionality of R
  - GUI + R script
  - R console

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Main Audience: Everyone

- Beginners
  - Use GUI to analyze without coding
  - Reuse workflows written by other users
    - Just Click and Run!
- Power Users
  - Write R script and visualize the process
  - GUI reduces coding

Workflow and interactive design benefits both

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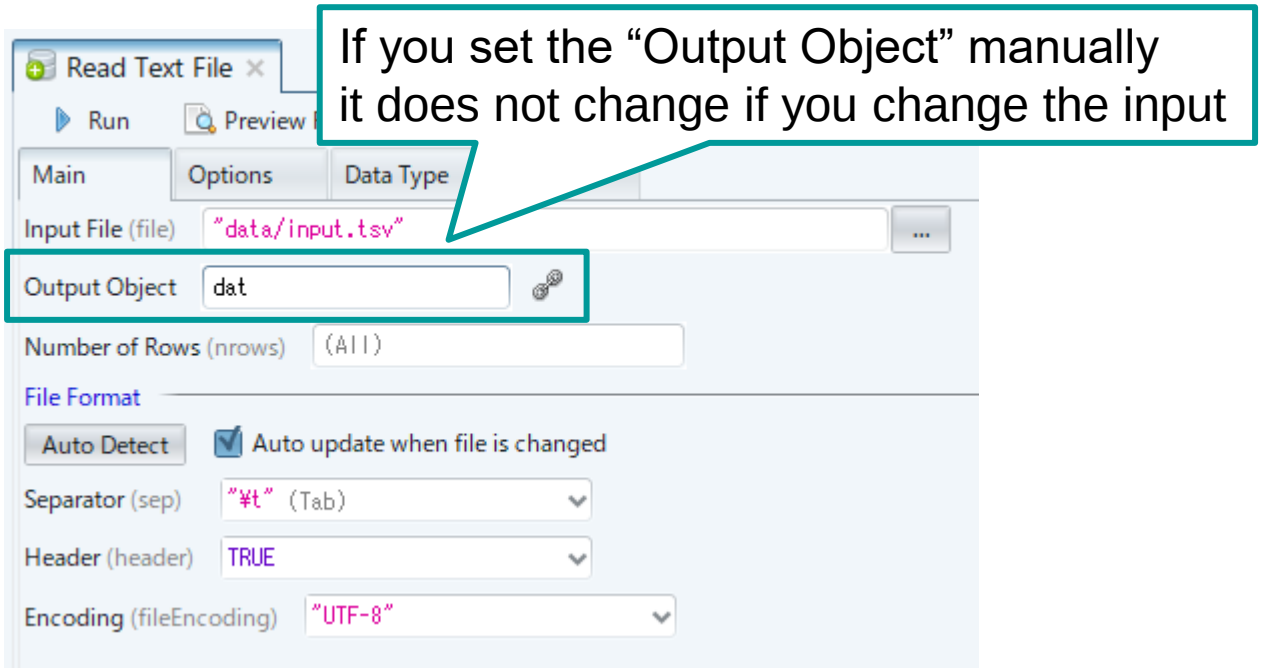
Reproducibility

- Workflow is fully reusable
  - Parameters and scripts are saved
  - Easily reusable and editable



Available Methods

GUI operations are available for data processing, basic statistics, graphics and predictive modeling.

Methods	Availability
Frequentist Statistics	Limited
Bayesian Statistics	No
Machine Learning / AI	Yes

You can make a custom GUI or write R scripts to go beyond these “preset” methods.

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Future Plan

- No clear plan, but thinking...
  - When we started this project (2007) we didn't have:
    - dplyr (tidyverse)
    - R Studio
    - Jupyter Notebook
    - GitHub
  - The advantage of coding is greater today
    - Readability
    - Collaboration with GitHub(-like systems)

What makes us happy on data analysis?
Mix of GUI and coding?

Thank You

- Try R AnalyticFlow:

http://r.analyticflow.com

or 🔍 **R AnalyticFlow**

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