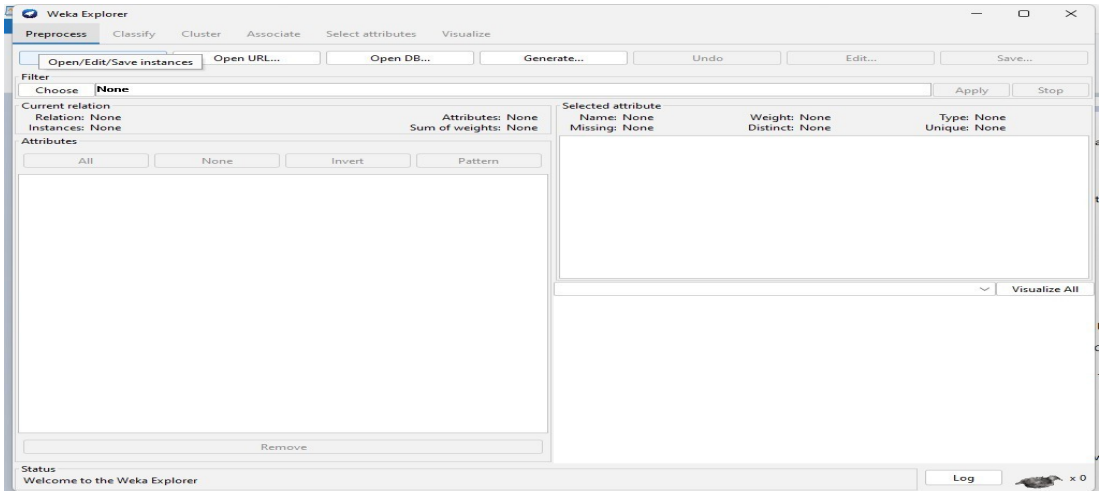
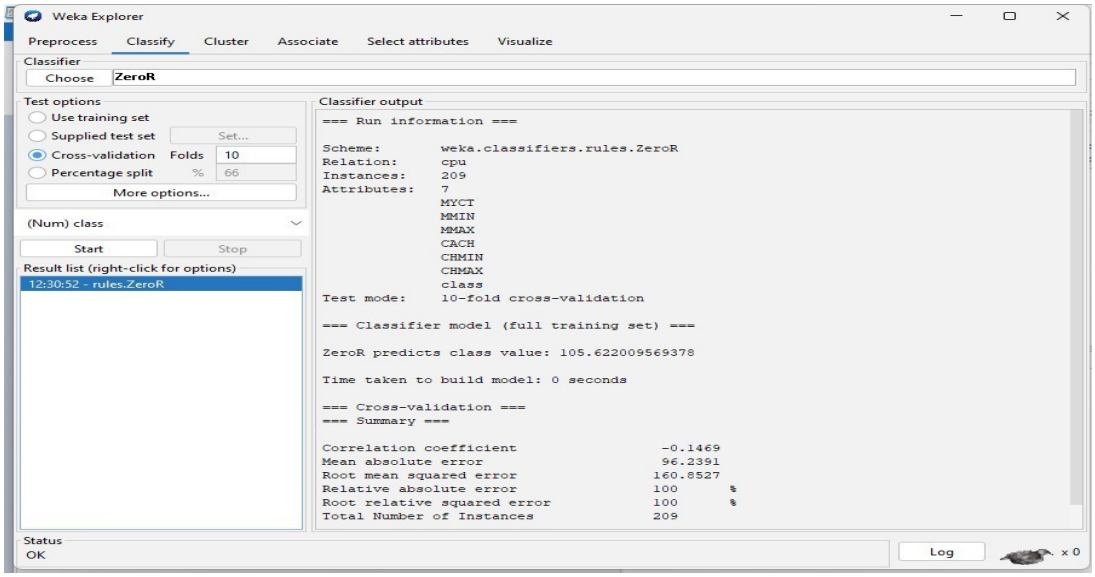
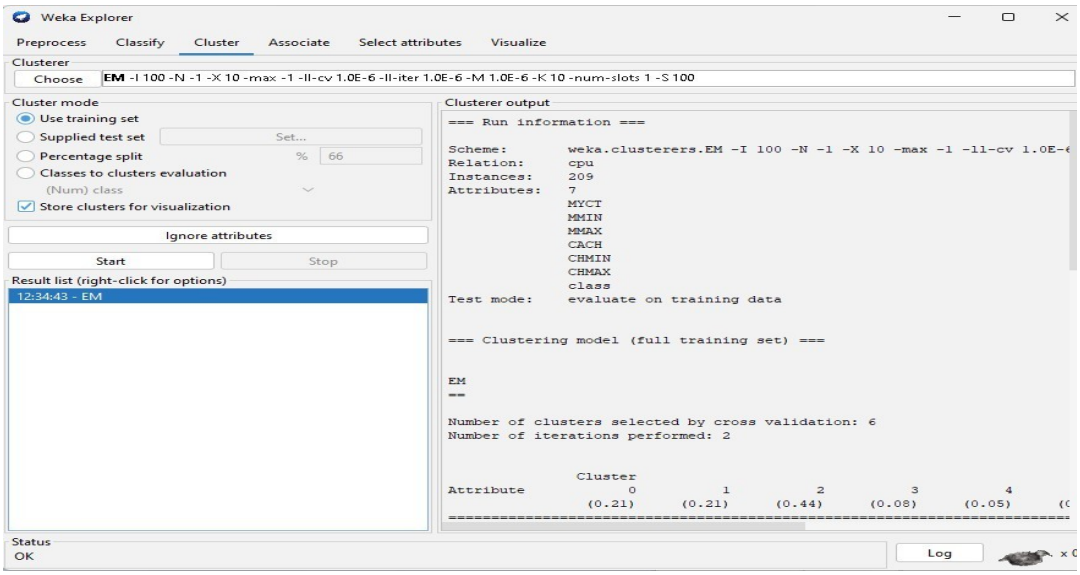
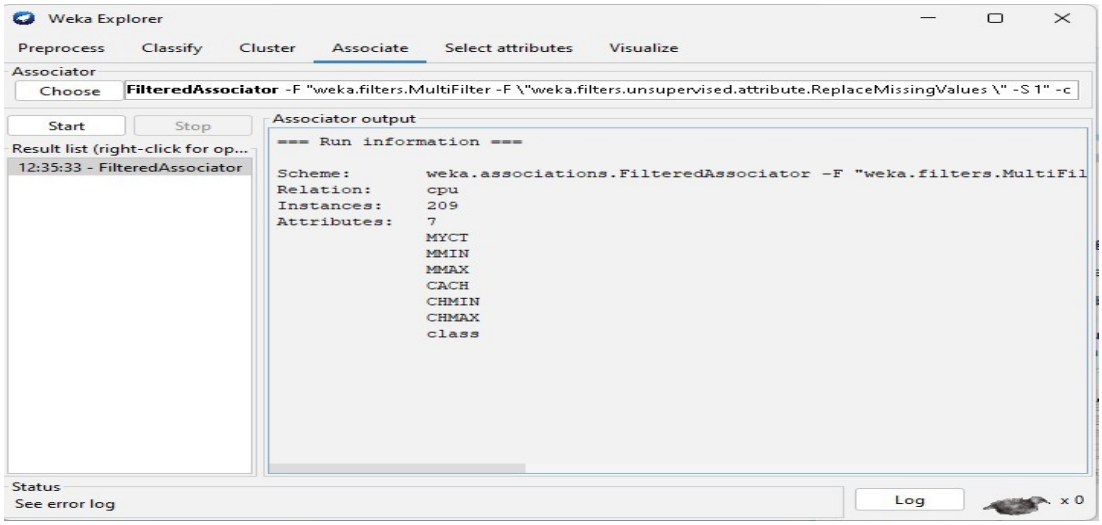
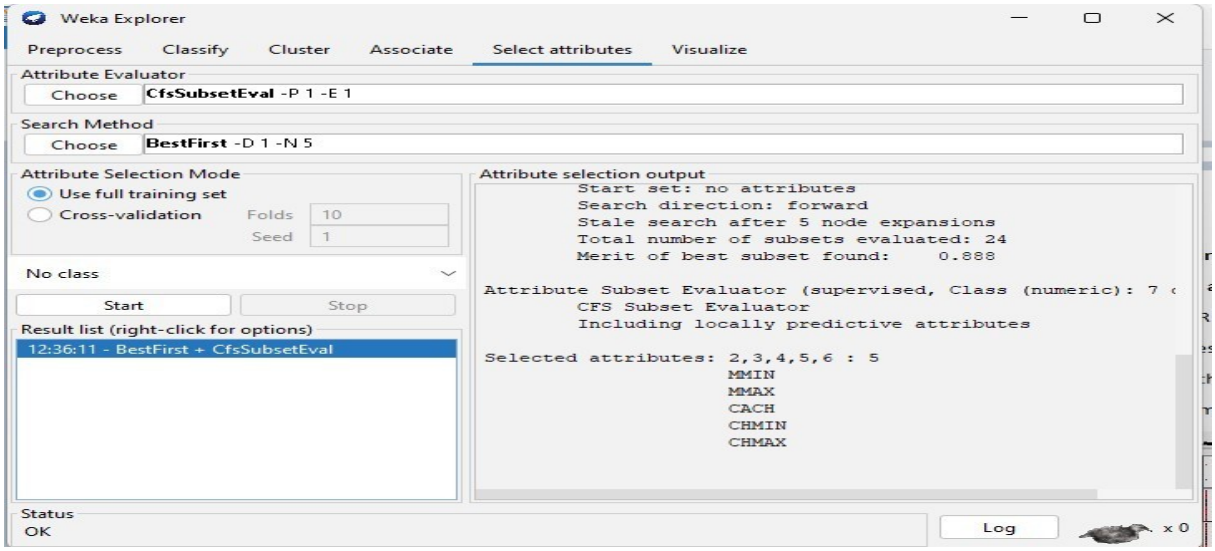

Program
Visualization
Tools
Help
Weka GUI Cho...
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
WEKA
THE UNIVERSITY OF
WAIKATO
NEW ZEALAND
Waikato Environment for Knowledge Analysis
Version 3.8.6
(c) 1999 - 2022
The University of Waikato
Hamilton, New Zealand

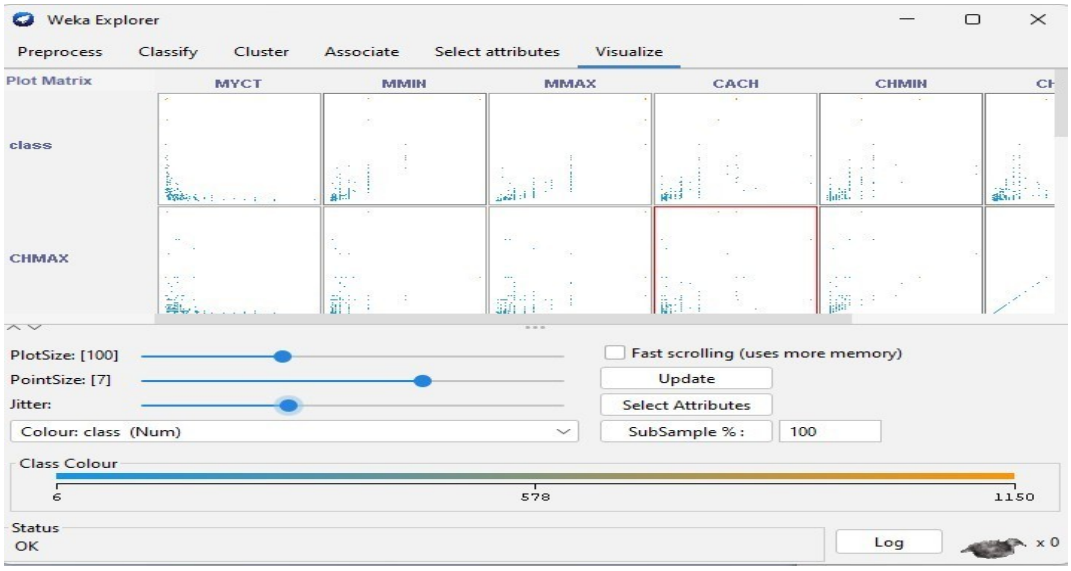

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Open/Edit/Save instances
Open URL...
Open DB...
Generate...
Undo
Edit...
Save...
Filter
Choose
None
Apply
Stop
Current relation
Relation: None
Instances: None
Attributes: None
Sum of weights: None
Selected attribute
Name: None
Missing: None
Weight: None
Distinct: None
Type: None
Unique: None
Attributes
All
None
Invert
Pattern
Visualize All
Remove
Status
Welcome to the Weka Explorer
Log
x 0

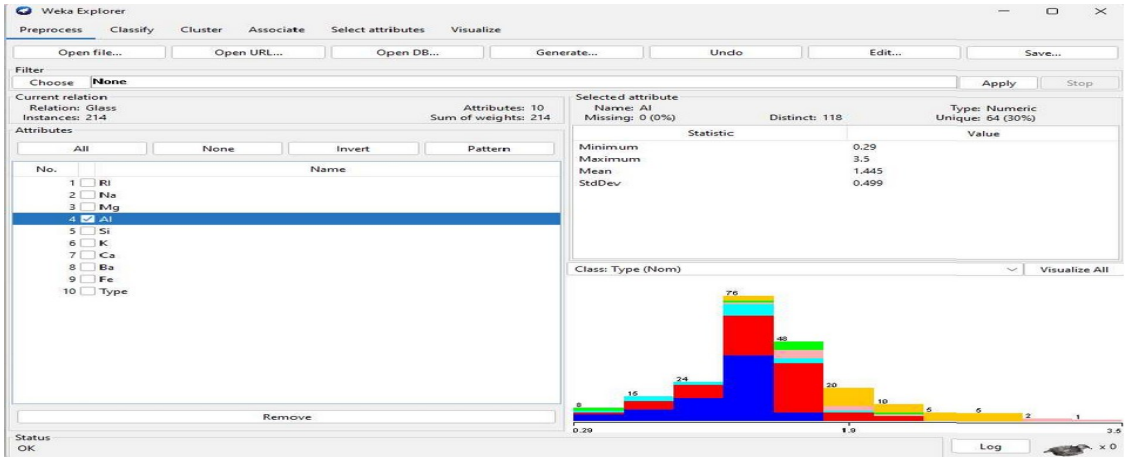

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Classifier
Choose
ZeroR
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Num) class
Start
Stop
Result list (right-click for options)
12:30:52 - rules.ZeroR
Classifier output
=== Run information ===
Scheme: weka.classifiers.rules.ZeroR
Relation: cpu
Instances: 209
Attributes: 7
MYCT
MMIN
MMAX
CACH
CHMIN
CHMAX
class
Test mode: 10-fold cross-validation
=== Classifier model (full training set) ===
ZeroR predicts class value: 105.622009569378
Time taken to build model: 0 seconds
=== Cross-validation ===
=== Summary ===
Correlation coefficient -0.1469
Mean absolute error 96.2391
Root mean squared error 160.8527
Relative absolute error 100 %
Root relative squared error 100 %
Total Number of Instances 209
Status
OK
Log
x 0

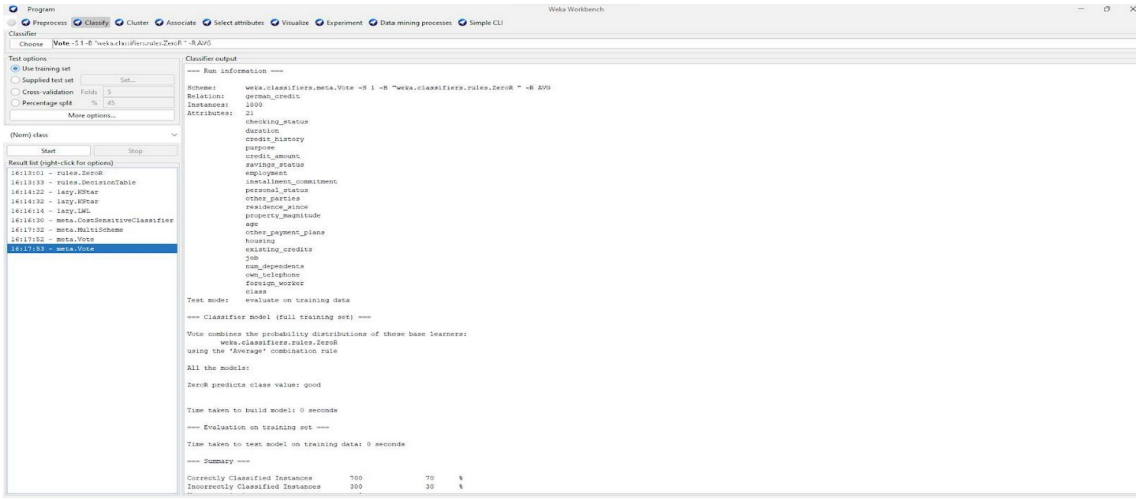

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Clusterer
Choose
EM -I 100 -N -1 -X 10 -max -1 -ll-cv 1.0E-6 -ll-iter 1.0E-6 -M 1.0E-6 -K 10 -num-slots 1 -S 100
Cluster mode
Use training set
Supplied test set
Set...
Percentage split
%
66
Classes to clusters evaluation
(Num) class
Store clusters for visualization
Ignore attributes
Start
Stop
Result list (right-click for options)
12:34:43 - EM
Clusterer output
=== Run information ===
Scheme: weka.clusterers.EM -I 100 -N -1 -X 10 -max -1 -ll-cv 1.0E-
Relation: cpu
Instances: 209
Attributes: 7
MYCT
MMIN
MMAX
CACH
CHMIN
CHMAX
class
Test mode: evaluate on training data
=== Clustering model (full training set) ===
EM
==
Number of clusters selected by cross validation: 6
Number of iterations performed: 2
Cluster
Attribute 0 1 2 3 4
(0.21) (0.21) (0.44) (0.08) (0.05)
Status
OK
Log

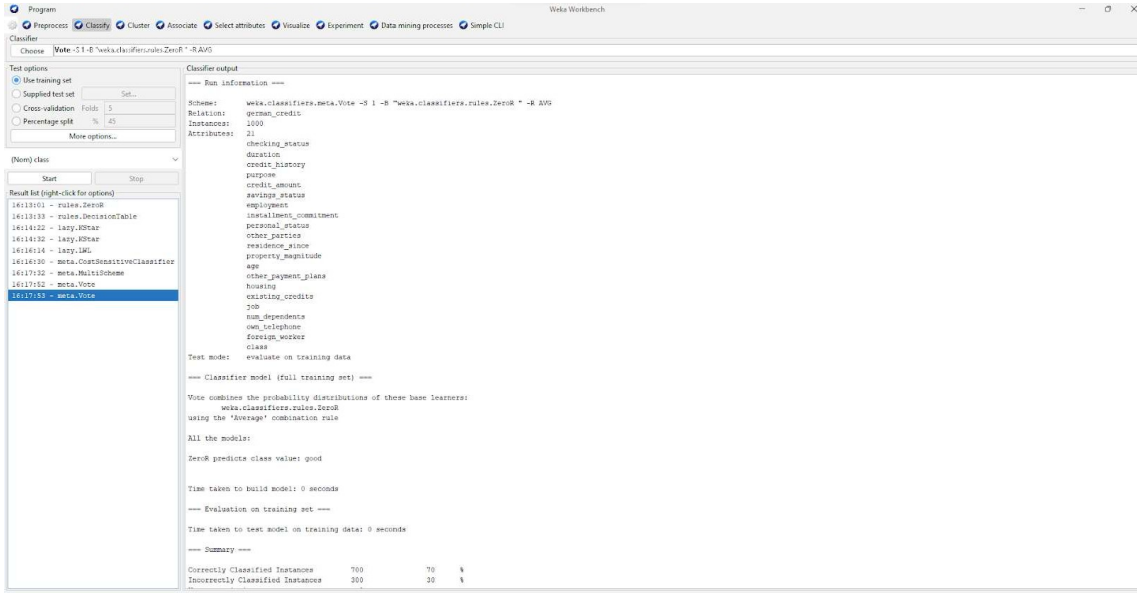

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Associator
Choose
FilteredAssociator -F "weka.filters.MultiFilter -F \"weka.filters.unsupervised.attribute.ReplaceMissingValues \" -S 1" -c
Start
Stop
Result list (right-click for op...
12:35:33 - FilteredAssociator
Associator output
=== Run information ===
Scheme: weka.associations.FilteredAssociator -F "weka.filters.MultiFil
Relation: cpu
Instances: 209
Attributes: 7
MYCT
MMIN
MMAX
CACH
CHMIN
CHMAX
class
Status
See error log
Log
x 0

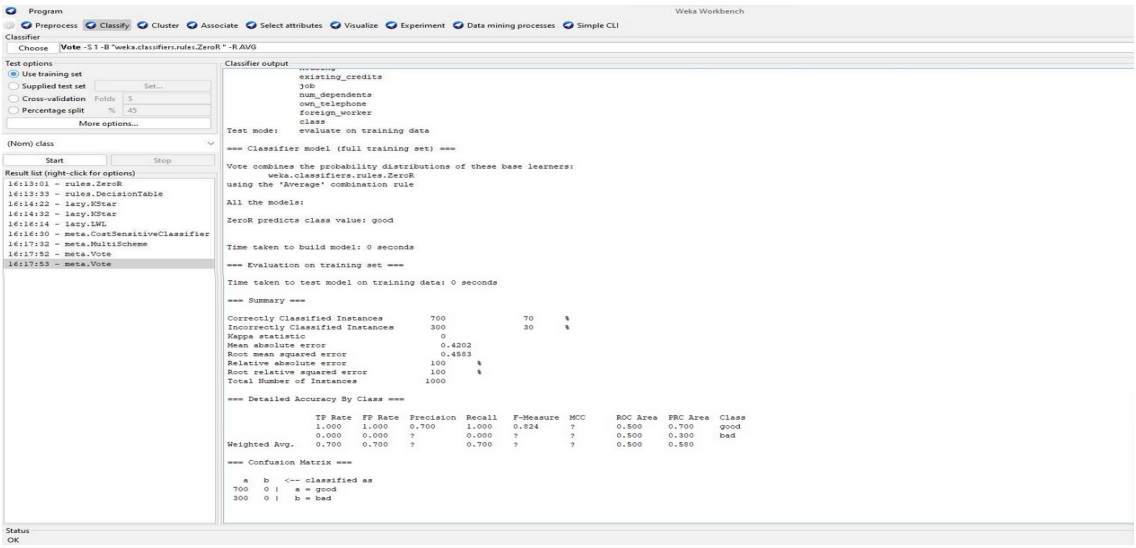

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Attribute Evaluator
Choose
CfsSubsetEval -P 1 -E 1
Search Method
Choose
BestFirst -D 1 -N 5
Attribute Selection Mode
Use full training set
Cross-validation
Folds
10
Seed
1
No class
Start
Stop
Result list (right-click for options)
12:36:11 - BestFirst + CfsSubsetEval
Attribute selection output
Start set: no attributes
Search direction: forward
Stale search after 5 node expansions
Total number of subsets evaluated: 24
Merit of best subset found: 0.888
Attribute Subset Evaluator (supervised, Class (numeric): 7
CFS Subset Evaluator
Including locally predictive attributes
Selected attributes: 2,3,4,5,6 : 5
MMIN
MMAX
CACH
CHMIN
CHMAX
Status
OK
Log
x 0

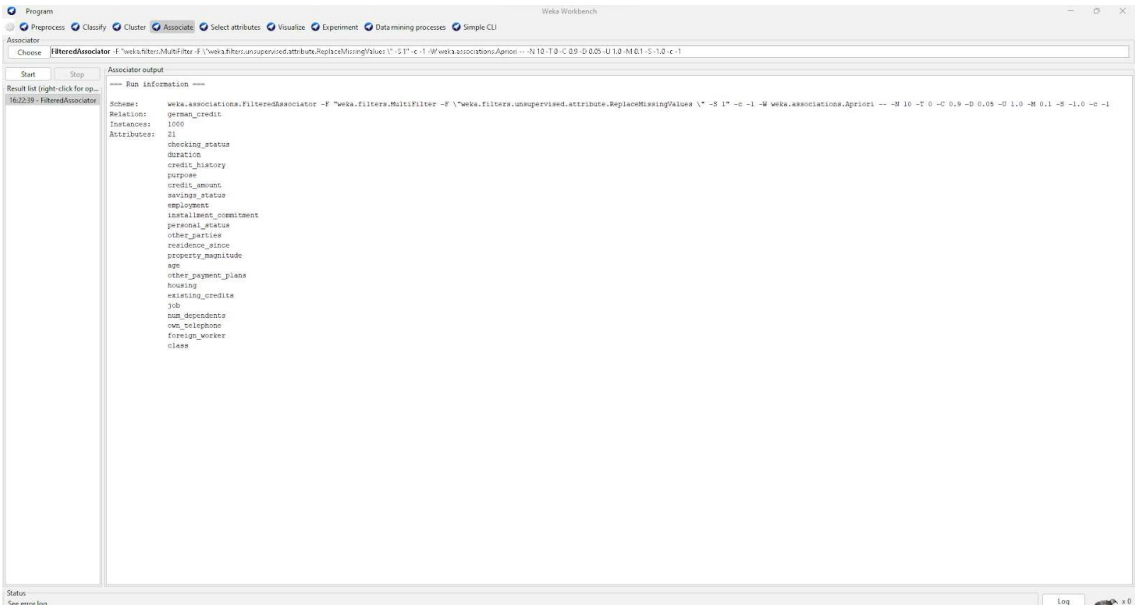

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Plot Matrix
MYCT
MMIN
MMAX
CACH
CHMIN
class
CHMAX
PlotSize: [100]
PointSize: [7]
Jitter:
Fast scrolling (uses more memory)
Update
Select Attributes
Colour: class (Num)
SubSample % :
100
Class Colour
6
578
1150
Status
OK
Log
x 0

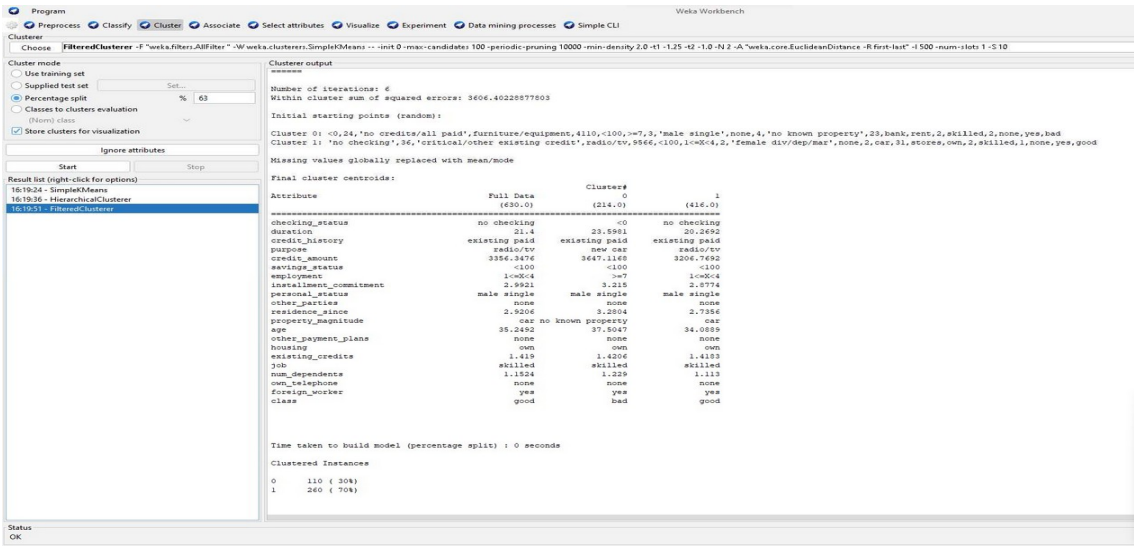

Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Open file...
Open URL...
Open DB...
Generate...
Undo
Edit...
Save...
Filter
Choose
None
Apply
Stop
Current relation
Relation: Glass
Instances: 214
Attributes: 10
Sum of weights: 214
Attributes
All
None
Invert
Pattern
No.
Name
1 RI
2 Na
3 Mg
4 Al
5 Si
6 K
7 Ca
8 Ba
9 Fe
10 Type
Remove
Selected attribute
Name: Al
Missing: 0 (0%)
Distinct: 118
Type: Numeric
Unique: 64 (30%)
Statistic
Value
Minimum 0.29
Maximum 3.5
Mean 1.445
StdDev 0.499
Class: Type (Nom)
Visualize All
76
48
24
20
16
10
8
5
5
2
1
0.29
1.9
3.5
Status
OK
Log
x 0

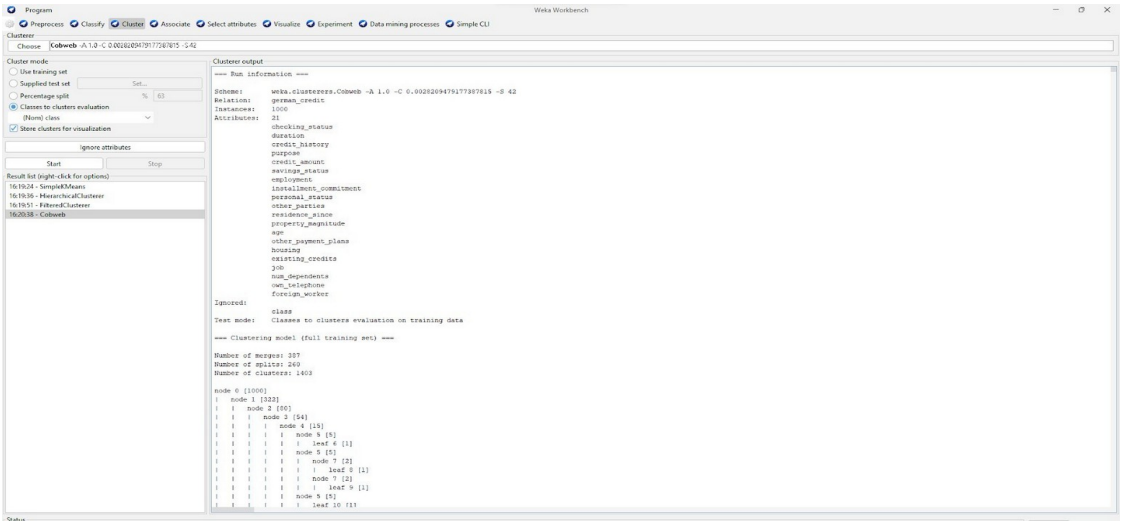

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Classifier
Choose
Vote -S 1 -B "weka.classifiers.rules.ZeroR " -R AVG
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
5
Percentage split
%
45
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
16:13:01 - rules.ZeroR
16:13:33 - rules.DecisionTable
16:14:22 - lazy.KStar
16:14:32 - lazy.KStar
16:16:14 - lazy.LWL
16:16:30 - meta.CostSensitiveClassifier
16:17:32 - meta.MultiScheme
16:17:52 - meta.Vote
16:17:53 - meta.Vote
Classifier output
=== Run information ===
Scheme: weka.classifiers.meta.Vote -S 1 -B "weka.classifiers.rules.ZeroR " -R AVG
Relation: german_credit
Instances: 1000
Attributes: 21
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
job
num_dependents
own_telephone
foreign_worker
class
Test mode: evaluate on training data
=== Classifier model (full training set) ===
Vote combines the probability distributions of these base learners:
weka.classifiers.rules.ZeroR
using the 'Average' combination rule
All the models:
ZeroR predicts class value: good
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 700 70 %
Incorrectly Classified Instances 300 30 %

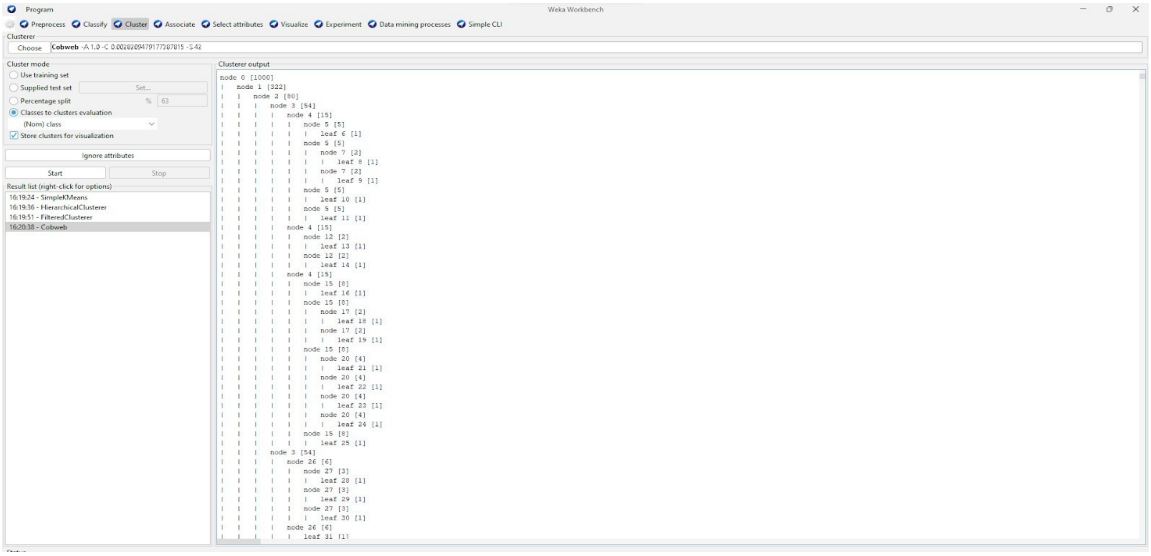

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Classifier
Choose
Vote -S 1 -B "weka.classifiers.rules.ZeroR " -R AVG
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
5
Percentage split
%
45
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
16:13:01 - rules.ZeroR
16:13:33 - rules.DecisionTable
16:14:22 - lazy.KStar
16:14:32 - lazy.KStar
16:16:14 - lazy.LWL
16:16:30 - meta.CostSensitiveClassifier
16:17:32 - meta.MultiScheme
16:17:52 - meta.Vote
16:17:53 - meta.Vote
Classifier output
=== Run information ===
Scheme: weka.classifiers.meta.Vote -S 1 -B "weka.classifiers.rules.ZeroR " -R AVG
Relation: german_credit
Instances: 1000
Attributes: 21
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
job
num_dependents
own_telephone
foreign_worker
class
Test mode: evaluate on training data
=== Classifier model (full training set) ===
Vote combines the probability distributions of these base learners:
weka.classifiers.rules.ZeroR
using the 'Average' combination rule
All the models:
ZeroR predicts class value: good
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 700 70 %
Incorrectly Classified Instances 300 30 %

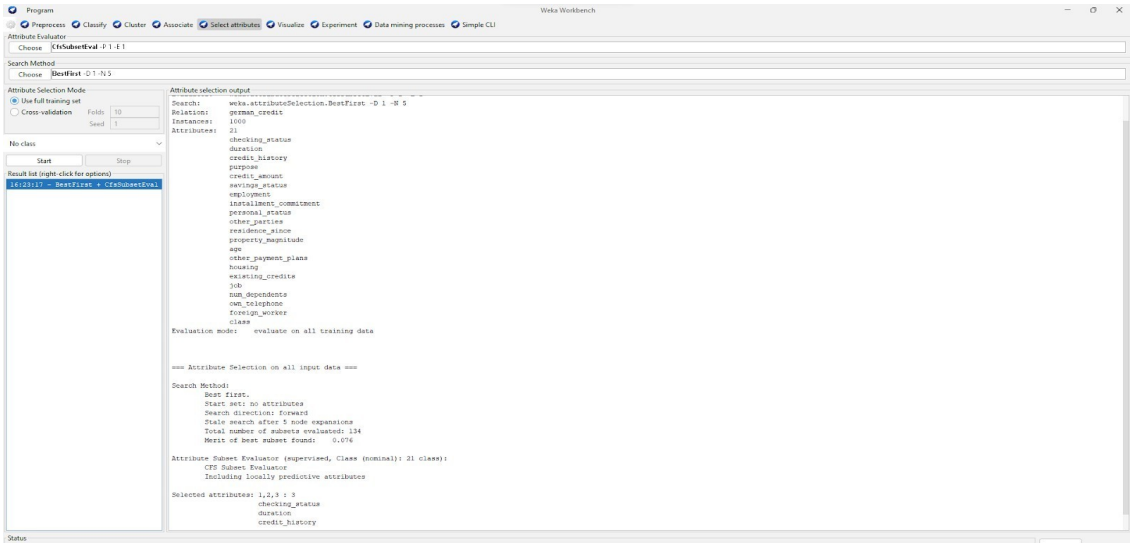

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Classifier
Choose
Vote -S 1 -B "weka.classifiers.rules.ZeroR " -R AVG
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
5
Percentage split
%
45
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
16:13:01 - rules.ZeroR
16:13:33 - rules.DecisionTable
16:14:22 - lazy.KStar
16:14:32 - lazy.KStar
16:16:14 - lazy.LWL
16:16:30 - meta.CostSensitiveClassifier
16:17:32 - meta.MultiScheme
16:17:52 - meta.Vote
16:17:53 - meta.Vote
Classifier output
existing_credits
job
num_dependents
own_telephone
foreign_worker
class
Test mode: evaluate on training data
=== Classifier model (full training set) ===
Vote combines the probability distributions of these base learners:
weka.classifiers.rules.ZeroR
using the 'Average' combination rule
All the models:
ZeroR predicts class value: good
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 700 70 %
Incorrectly Classified Instances 300 30 %
Kappa statistic 0
Mean absolute error 0.4202
Root mean squared error 0.4583
Relative absolute error 100 %
Root relative squared error 100 %
Total Number of Instances 1000
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class
1.000 1.000 0.700 1.000 0.824 ? 0.500 0.700 good
0.000 0.000 ? 0.000 ? ? 0.500 0.300 bad
Weighted Avg. 0.700 0.700 ? 0.700 ? ? 0.500 0.580
=== Confusion Matrix ===
a b <-- classified as
700 0 | a = good
300 0 | b = bad
Status
OK

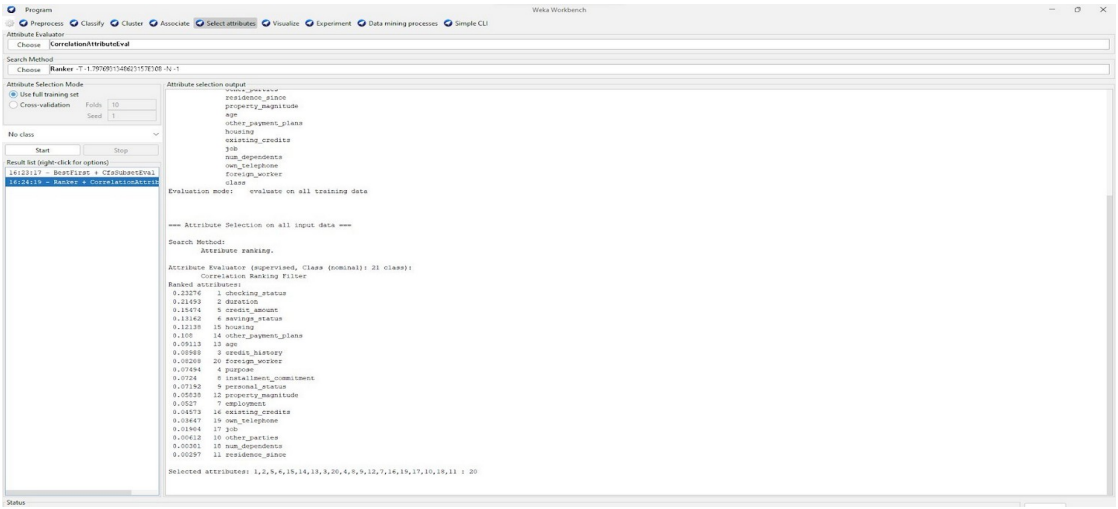

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Associator
Choose
FilteredAssociator -F "weka.filters.MultiFilter -F \"weka.filters.unsupervised.attribute.ReplaceMissingValues \" -S 1" -c -1 -W weka.associations.Apriori -- -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1
Start
Stop
Result list (right-click for op...
16:22:39 - FilteredAssociator
Associator output
=== Run information ===
Scheme: weka.associations.FilteredAssociator -F "weka.filters.MultiFilter -F \"weka.filters.unsupervised.attribute.ReplaceMissingValues \" -S 1" -c -1 -W weka.associations.Apriori -- -N 10 -T 0 -C 0.9 -D 0.05 -U 1.0 -M 0.1 -S -1.0 -c -1
Relation: german_credit
Instances: 1000
Attributes: 21
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
job
num_dependents
own_telephone
foreign_worker
class
Status
Log
x 0

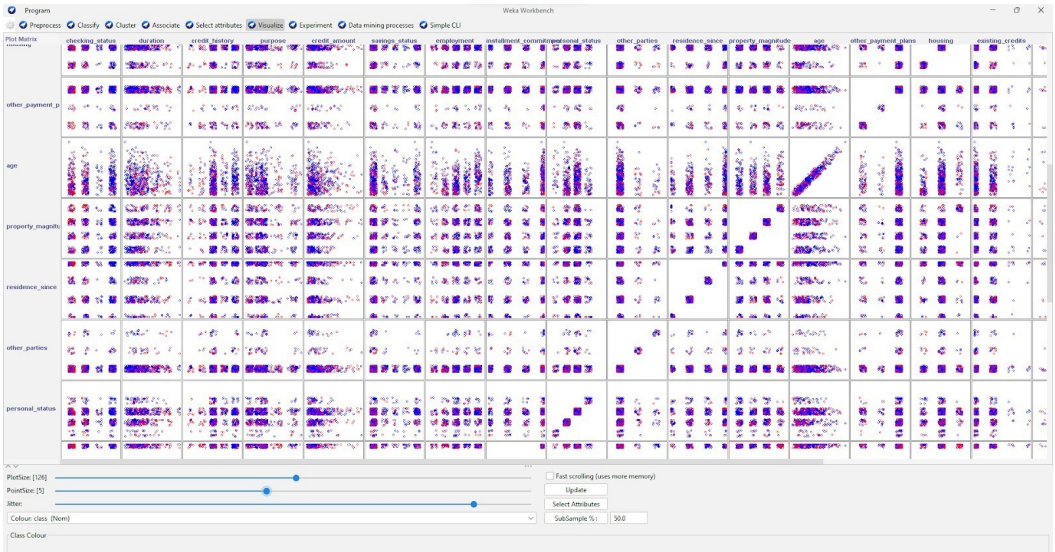

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Clusterer
Choose
FilteredClusterer -F "weka.filters.AllFilter " -W weka.clusterers.SimpleKMeans -- -init 0 -max-candidates 100 -periodic-pruning 10000 -min-density 2.0 -t1 -1.25 -t2 -1.0 -N 2 -A "weka.core.EuclideanDistance -R first-last" -I 500 -num-slots 1 -S 10
Cluster mode
Use training set
Supplied test set
Set...
Percentage split
%
63
Classes to clusters evaluation
(Nom) class
Store clusters for visualization
Ignore attributes
Start
Stop
Result list (right-click for options)
16:19:24 - SimpleKMeans
16:19:36 - HierarchicalClusterer
16:19:51 - FilteredClusterer
Clusterer output
Number of iterations: 6
Within cluster sum of squared errors: 3606.40228877603
Initial starting points (random):
Cluster 0: <0,24,'no credits/all paid',furniture/equipment,4110,<100,>=7,3,'male single',none,4,'no known property',23,bank,rent,2,skilled,2,none,yes,bad
Cluster 1: 'no checking',36,'critical/other existing credit',radio/tv,9566,<100,1<=X<4,2,'female div/dep/mar',none,2,car,31,stores,own,2,skilled,1,none,yes,good
Missing values globally replaced with mean/mode
Final cluster centroids:
Cluster#
Attribute Full Data 0 1
(630.0) (214.0) (416.0)
checking_status no checking <0 no checking
duration 21.4 23.5981 20.2692
credit_history existing paid existing paid existing paid
purpose radio/tv new car radio/tv
credit_amount 3356.3476 3647.1168 3206.7692
savings_status <100 <100 <100
employment 1<=X<4 >=7 1<=X<4
installment_commitment 2.9921 3.215 2.8774
personal_status male single male single male single
other_parties none none none
residence_since 2.9204 3.2804 2.7356
property_magnitude car no known property car
age 35.2492 37.5047 34.0889
other_payment_plans none none none
housing own own own
existing_credits 1.419 1.4206 1.4183
job skilled skilled skilled
num_dependents 1.1524 1.229 1.113
own_telephone none none none
foreign_worker yes yes yes
class good bad good
Time taken to build model (percentage split) : 0 seconds
Clustered Instances
0 110 (30%)
1 260 (70%)
Status
OK

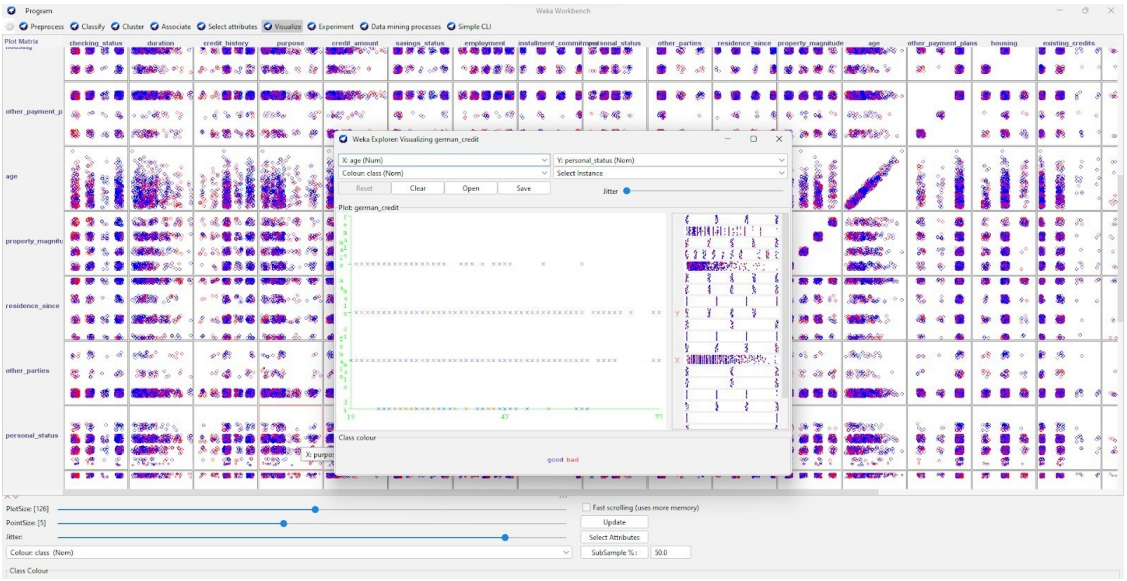

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Clusterer
Choose
Cobweb -A 1.0 -C 0.0028209479177387815 -S 42
Cluster mode
Use training set
Supplied test set
Set...
Percentage split
%
63
Classes to clusters evaluation
(Nom) class
Store clusters for visualization
Ignore attributes
Start
Stop
Result list (right-click for options)
16:19:24 - SimpleKMeans
16:19:36 - HierarchicalClusterer
16:19:51 - FilteredClusterer
16:20:38 - Cobweb
Clusterer output
=== Run information ===
Scheme: weka.clusterers.Cobweb -A 1.0 -C 0.0028209479177387815 -S 42
Relation: german_credit
Instances: 1000
Attributes: 21
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
job
num_dependents
own_telephone
foreign_worker
Ignored:
class
Test mode: Classes to clusters evaluation on training data
=== Clustering model (full training set) ===
Number of merges: 307
Number of splits: 269
Number of clusters: 1403
node 0 [1000]
| node 1 [322]
| | node 2 [66]
| | | node 3 [54]
| | | | node 4 [15]
| | | | | node 5 [5]
| | | | | | leaf 6 [1]
| | | | | node 5 [5]
| | | | | | node 7 [2]
| | | | | | | leaf 8 [1]
| | | | | | node 7 [2]
| | | | | | | leaf 9 [1]
| | | | | node 5 [5]
| | | | | leaf 10 [11]
Status

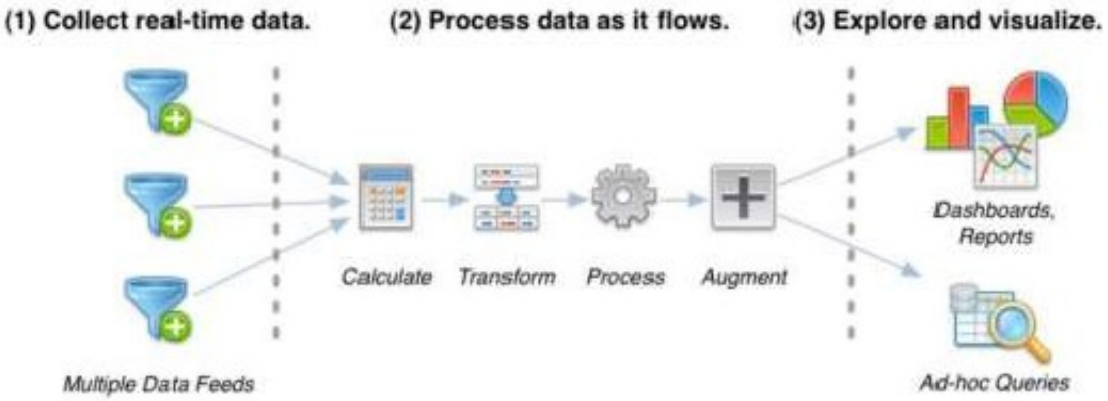

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Clusterer
Choose
Cobweb -A 1.0 -C 0.0028204701777287015 -S 42
Cluster mode
Use training set
Supplied test set
Set...
Percentage split
%
66
Classes to clusters evaluation
(Nom) class
Store clusters for visualization
Ignore attributes
Start
Stop
Result list (right-click for options)
16:19:24 - SimpleKMeans
16:19:36 - HierarchicalClusterer
16:19:51 - FilteredClusterer
16:20:38 - Cobweb
Clusterer output
node 0 [1000]
| node 1 [222]
| | node 2 [80]
| | | node 3 [54]
| | | | node 4 [15]
| | | | | node 5 [5]
| | | | | | leaf 6 [1]
| | | | | node 5 [5]
| | | | | | node 7 [2]
| | | | | | | leaf 8 [1]
| | | | | | node 7 [2]
| | | | | | | leaf 9 [1]
| | | | | node 5 [5]
| | | | | | leaf 10 [1]
| | | | | node 5 [5]
| | | | | | leaf 11 [1]
| | | | node 4 [15]
| | | | | node 12 [2]
| | | | | | leaf 13 [1]
| | | | | node 12 [2]
| | | | | | leaf 14 [1]
| | | | node 4 [15]
| | | | | node 15 [8]
| | | | | | leaf 16 [1]
| | | | | node 15 [8]
| | | | | | node 17 [2]
| | | | | | | leaf 18 [1]
| | | | | | node 17 [2]
| | | | | | | leaf 19 [1]
| | | | | node 15 [8]
| | | | | | node 20 [4]
| | | | | | | leaf 21 [1]
| | | | | | node 20 [4]
| | | | | | | leaf 22 [1]
| | | | | | node 20 [4]
| | | | | | | leaf 23 [1]
| | | | | | node 20 [4]
| | | | | | | leaf 24 [1]
| | | | | node 15 [8]
| | | | | | leaf 25 [1]
| | | | node 3 [54]
| | | | | node 26 [6]
| | | | | | node 27 [3]
| | | | | | | leaf 28 [1]
| | | | | | node 27 [3]
| | | | | | | leaf 29 [1]
| | | | | node 27 [3]
| | | | | | | leaf 30 [1]
| | | | | node 26 [6]
| | | | | | leaf 31 [1]

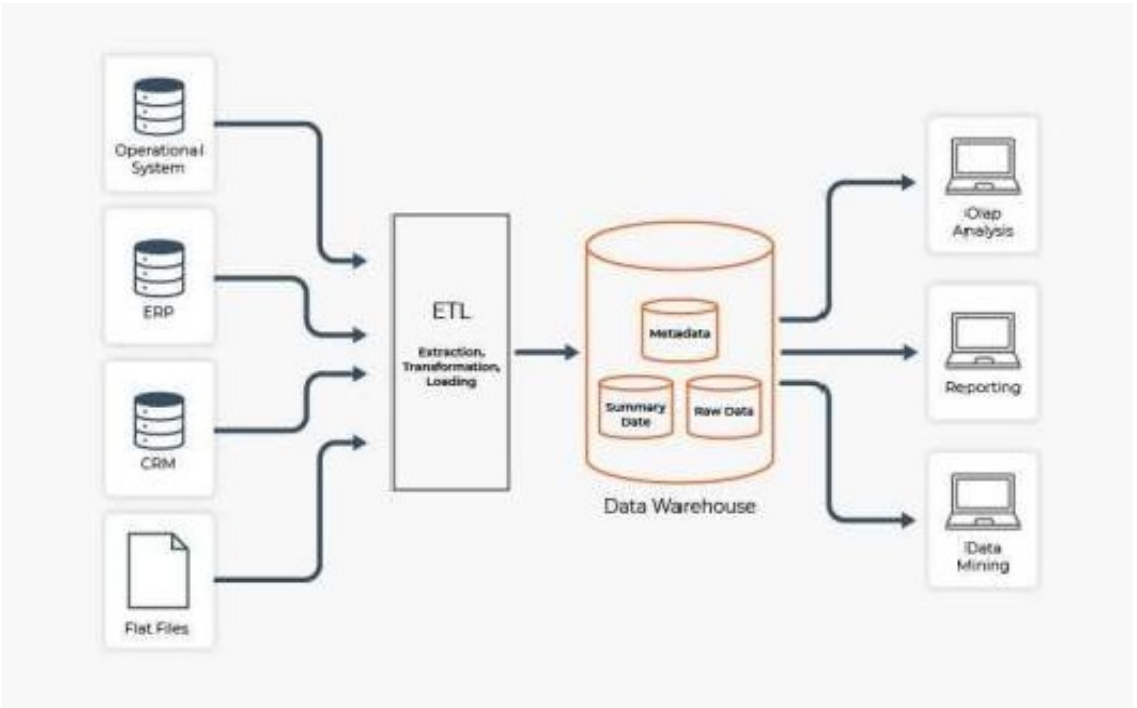

Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Attribute Evaluator
Choose
CfsSubsetEval -P 1 -E 1
Search Method
Choose
BestFirst -D 1 -N 5
Attribute Selection Mode
Use full training set
Cross-validation
Folds
10
Seed
1
No class
Start
Stop
Result list (right-click for options)
16:23:17 - BestFirst + CfsSubsetEval
Attribute selection output
Search: weka.attributeSelection.BestFirst -D 1 -N 5
Relation: german_credit
Instances: 1000
Attributes: 21
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
job
num_dependents
own_telephone
foreign_worker
class
Evaluation mode: evaluate on all training data
=== Attribute Selection on all input data ===
Search Method:
Best first.
Start set: no attributes
Search direction: forward
Stale search after 5 node expansions
Total number of subsets evaluated: 134
Merit of best subset found: 0.076
Attribute Subset Evaluator (supervised, Class (nominal): 21 class):
CFS Subset Evaluator
Including locally predictive attributes
Selected attributes: 1,2,3 : 3
checking_status
duration
credit_history
Status


Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Attribute Evaluator
Choose CorrelationAttributeEval
Search Method
Choose Ranker -T -1.7976931348623157E308 -N -1
Attribute Selection Mode
Use full training set
Cross-validation
Folds 10
Seed 1
No class
Start
Stop
Result list (right-click for options)
14:23:17 - BestFirst + CfsSubsetEval
14:24:19 - Ranker + CorrelationAttri
Attribute selection output
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
job
num_dependents
own_telephone
foreign_worker
class
Evaluation mode: evaluate on all training data
=== Attribute Selection on all input data ===
Search Method:
Attribute ranking.
Attribute Evaluator (supervised, Class (nominal): 21 class):
Correlation Ranking Filter
Ranked attributes:
0.23276 1 checking_status
0.21493 2 duration
0.15474 5 credit_amount
0.13162 6 savings_status
0.12138 15 housing
0.108 14 other_payment_plans
0.09113 13 age
0.08988 3 credit_history
0.08208 20 foreign_worker
0.07494 4 purpose
0.0724 8 installment_commitment
0.07192 9 personal_status
0.05535 12 property_magnitude
0.0527 7 employment
0.04573 16 existing_credits
0.03447 19 own_telephone
0.01904 17 job
0.00612 10 other_parties
0.00301 18 num_dependents
0.00297 11 residence_since
Selected attributes: 1,2,5,6,15,14,13,3,20,4,8,9,12,7,16,19,17,10,18,11 : 20
Status


Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Plot Matrix
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
other_payment_p
age
property_magnitu
residence_since
other_parties
personal_status
PlotSize: [126]
PointSize: [5]
Jitter:
Colour: class (Nom)
Fast scrolling (uses more memory)
Update
Select Attributes
SubSample %:
50.0
Class Colour


Program
Weka Workbench
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Experiment
Data mining processes
Simple CLI
Plot Matrix
checking_status
duration
credit_history
purpose
credit_amount
savings_status
employment
installment_commitment
personal_status
other_parties
residence_since
property_magnitude
age
other_payment_plans
housing
existing_credits
other_payment_p
age
property_magnitu
residence_since
other_parties
personal_status
Weka Explorer: Visualizing german_credit
X: age (Num)
Y: personal_status (Nom)
Colour: class (Nom)
Select Instance
Reset
Clear
Open
Save
Jitter
Plot: german_credit
Class colour
good bad
PlotSize: [126]
PointSize: [5]
Jitter:
Fast scrolling (uses more memory)
Update
Select Attributes
Colour: class (Nom)
SubSample % :
50.0
Class Colour


(1) Collect real-time data.
(2) Process data as it flows.
(3) Explore and visualize.
Multiple Data Feeds
Calculate
Transform
Process
Augment
Dashboards, Reports
Ad-hoc Queries


Operational System
ERP
CRM
Flat Files
ETL
Extraction, Transformation, Loading
Metadata
Summary Data
Raw Data
Data Warehouse
OLap Analysis
Reporting
Data Mining


College Analytics Dashboard

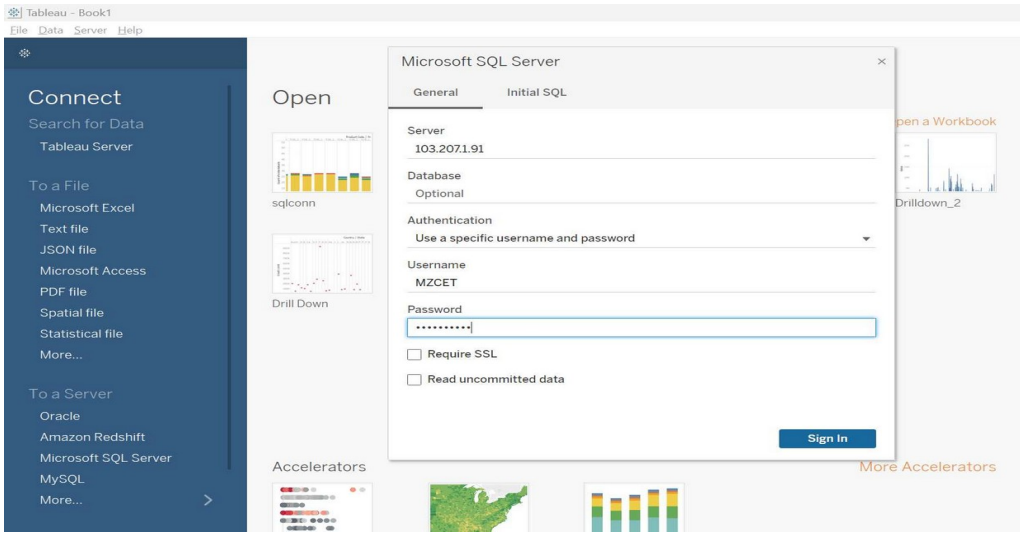


Tableau - Book1
File Data Server Help
Connect
Search for Data
Tableau Server
To a File
Microsoft Excel
Text file
JSON file
Microsoft Access
PDF file
Spatial file
Statistical file
More...
To a Server
Oracle
Amazon Redshift
Microsoft SQL Server
MySQL
More...
Open
sqlconn
Drill Down
Microsoft SQL Server
General
Initial SQL
Server
103.207.1.91
Database
Optional
Authentication
Use a specific username and password
Username
MZCET
Password
Require SSL
Read uncommitted data
Sign In
pen a Workbook
Drilldown_2
Accelerators
More Accelerators

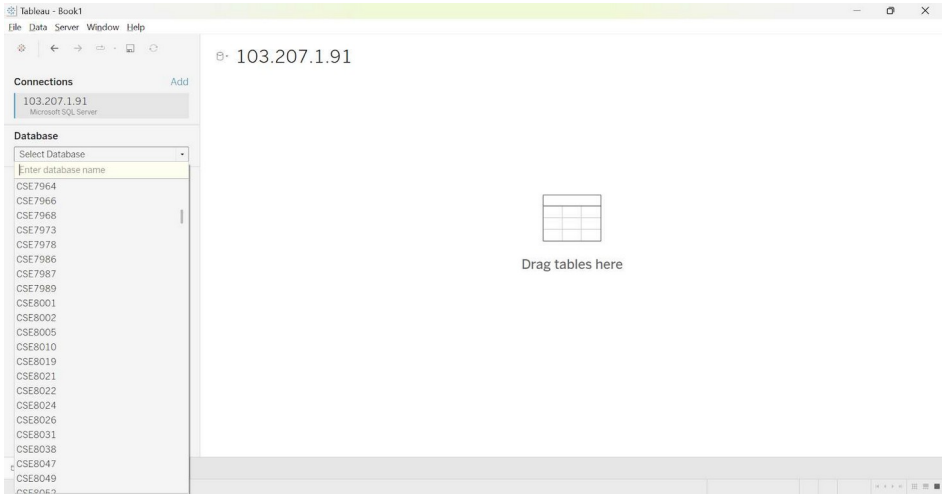


Tableau - Book1
File Data Server Window Help
Connections
Add
103.207.1.91
Microsoft SQL Server
Database
Select Database
Enter database name
CSE7964
CSE7966
CSE7968
CSE7973
CSE7978
CSE7986
CSE7987
CSE7989
CSE8001
CSE8002
CSE8005
CSE8010
CSE8019
CSE8021
CSE8022
CSE8024
CSE8026
CSE8031
CSE8038
CSE8047
CSE8049
103.207.1.91
Drag tables here

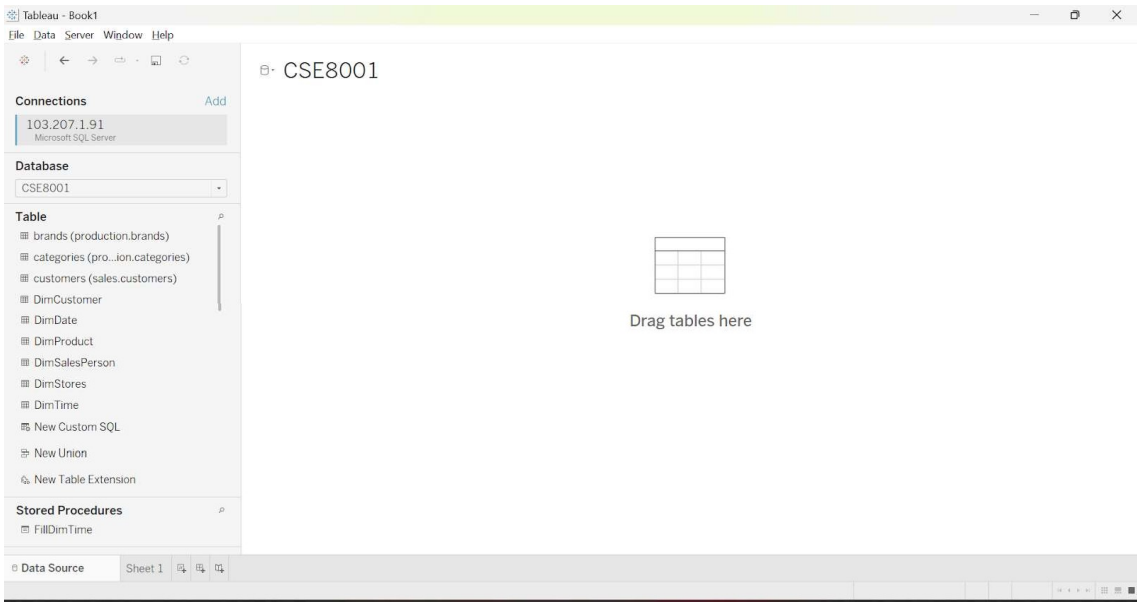


Tableau - Book1
File Data Server Window Help
Connections
Add
103.207.1.91
Microsoft SQL Server
Database
CSE8001
Table
brands (production.brands)
categories (pro...ion.categories)
customers (sales.customers)
DimCustomer
DimDate
DimProduct
DimSalesPerson
DimStores
DimTime
New Custom SQL
New Union
New Table Extension
Stored Procedures
FillDimTime
CSE8001
Drag tables here
Data Source
Sheet 1

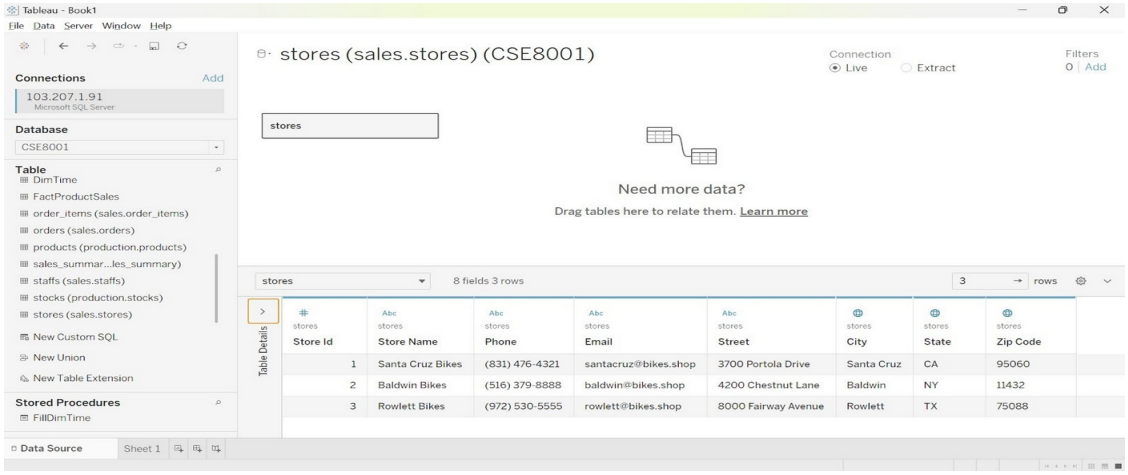


Tableau - Book1
File Data Server Window Help
Connections
Add
103.207.1.91
Microsoft SQL Server
Database
CSE8001
Table
DimTime
FactProductSales
order_items (sales.order_items)
orders (sales.orders)
products (production.products)
sales_summar...les_summary)
staffs (sales.staffs)
stocks (production.stocks)
stores (sales.stores)
New Custom SQL
New Union
New Table Extension
Stored Procedures
FillDimTime
stores (sales.stores) (CSE8001)
Connection
Live
Extract
Filters
0 | Add
stores
Need more data?
Drag tables here to relate them. Learn more
stores
8 fields 3 rows
3
rows
Table Details
Store Id
Store Name
Phone
Email
Street
City
State
Zip Code
1 Santa Cruz Bikes (831) 476-4321 santacruz@bikes.shop 3700 Portola Drive Santa Cruz CA 95060
2 Baldwin Bikes (516) 379-8888 baldwin@bikes.shop 4200 Chestnut Lane Baldwin NY 11432
3 Rowlett Bikes (972) 530-5555 rowlett@bikes.shop 8000 Fairway Avenue Rowlett TX 75088
Data Source
Sheet 1

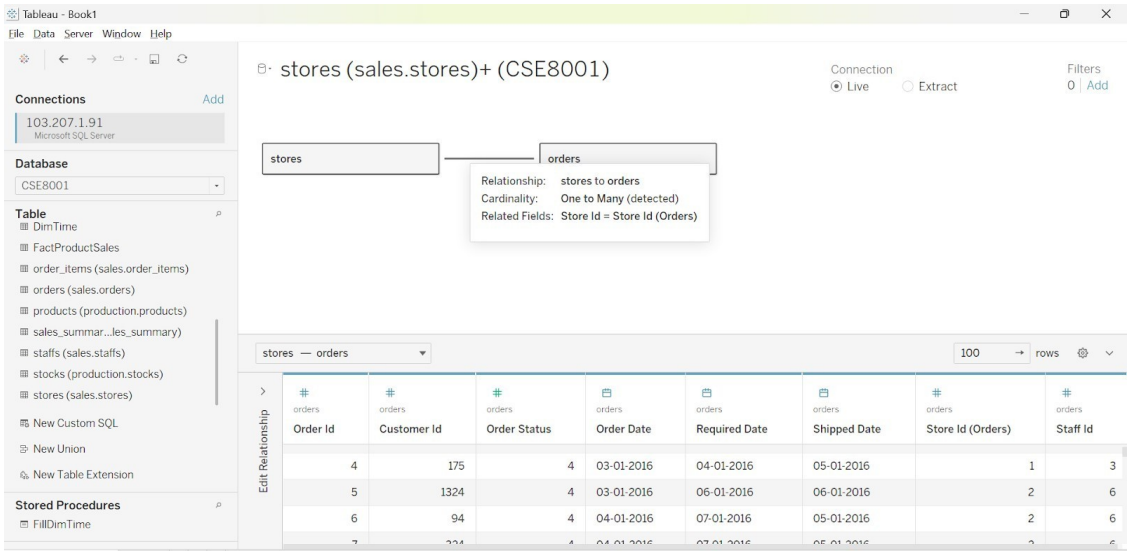


Tableau - Book1
File Data Server Window Help
stores (sales.stores)+ (CSE8001)
Connection
Live
Extract
Filters
0 | Add
Connections
Add
103.207.1.91
Microsoft SQL Server
Database
CSE8001
Table
DimTime
FactProductSales
order_items (sales.order_items)
orders (sales.orders)
products (production.products)
sales_summar...les_summary)
staffs (sales.staffs)
stocks (production.stocks)
stores (sales.stores)
New Custom SQL
New Union
New Table Extension
Stored Procedures
FillDimTime
stores
orders
Relationship: stores to orders
Cardinality: One to Many (detected)
Related Fields: Store Id = Store Id (Orders)
stores — orders
100 rows
Edit Relationship
Order Id
Customer Id
Order Status
Order Date
Required Date
Shipped Date
Store Id (Orders)
Staff Id
4 175 4 03-01-2016 04-01-2016 05-01-2016 1 3
5 1324 4 03-01-2016 06-01-2016 06-01-2016 2 6
6 94 4 04-01-2016 07-01-2016 05-01-2016 2 6

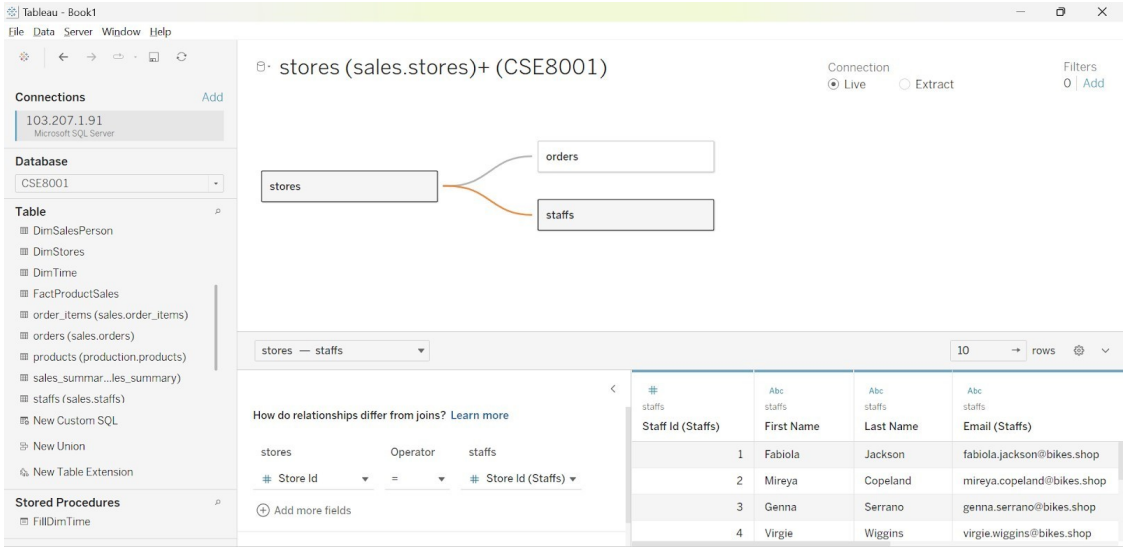


Tableau - Book1
File Data Server Window Help
stores (sales.stores)+ (CSE8001)
Connection
Live
Extract
Filters
0 | Add
Connections
Add
103.207.1.91
Microsoft SQL Server
Database
CSE8001
Table
DimSalesPerson
DimStores
DimTime
FactProductSales
order_items (sales.order_items)
orders (sales.orders)
products (production.products)
sales_summar...les_summary)
staffs (sales.staffs)
New Custom SQL
New Union
New Table Extension
Stored Procedures
FillDimTime
stores
orders
staffs
stores — staffs
10 rows
How do relationships differ from joins? Learn more
stores
Operator
staffs
Store Id
=
Store Id (Staffs)
Add more fields
Staff Id (Staffs)
First Name
Last Name
Email (Staffs)
1 Fabiola Jackson fabiola.jackson@bikes.shop
2 Mireya Copeland mireya.copeland@bikes.shop
3 Genna Serrano genna.serrano@bikes.shop
4 Virgie Wiggins virgie.wiggins@bikes.shop

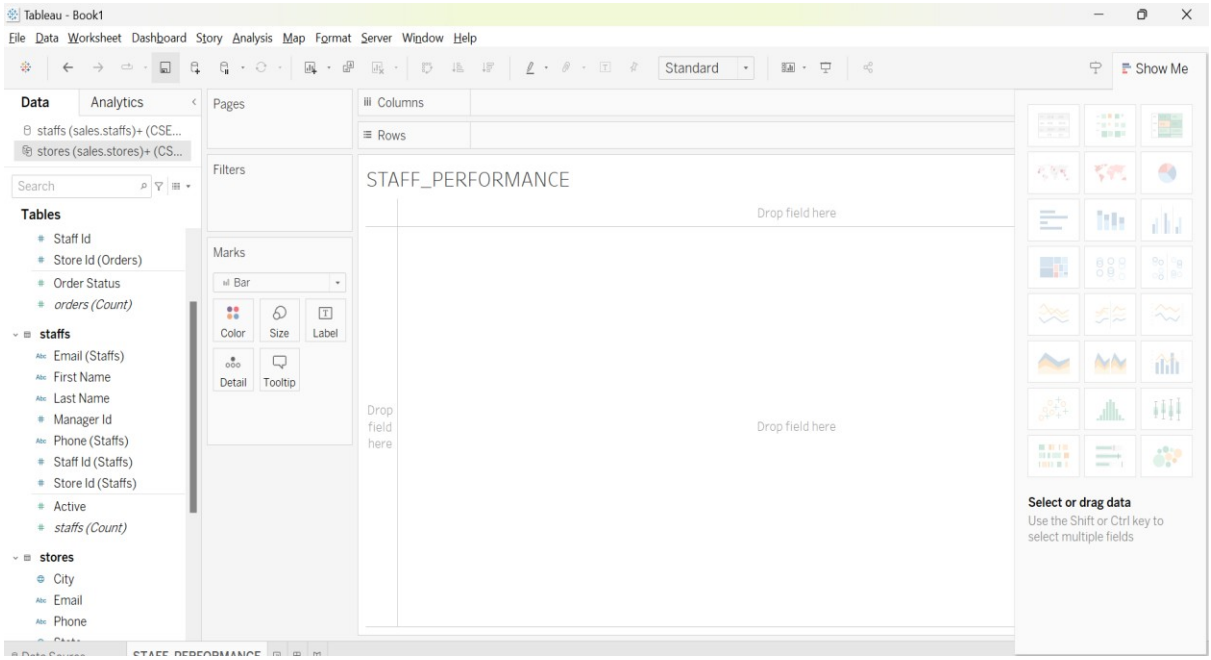


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Show Me
Data
Analytics
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
Last Name
Manager Id
Phone (Staffs)
Staff Id (Staffs)
Store Id (Staffs)
Active
staffs (Count)
stores
City
Email
Phone
Pages
Filters
Marks
Bar
Color
Size
Label
Detail
Tooltip
Columns
Rows
STAFF_PERFORMANCE
Drop field here
Drop field here
Drop field here
Select or drag data
Use the Shift or Ctrl key to select multiple fields

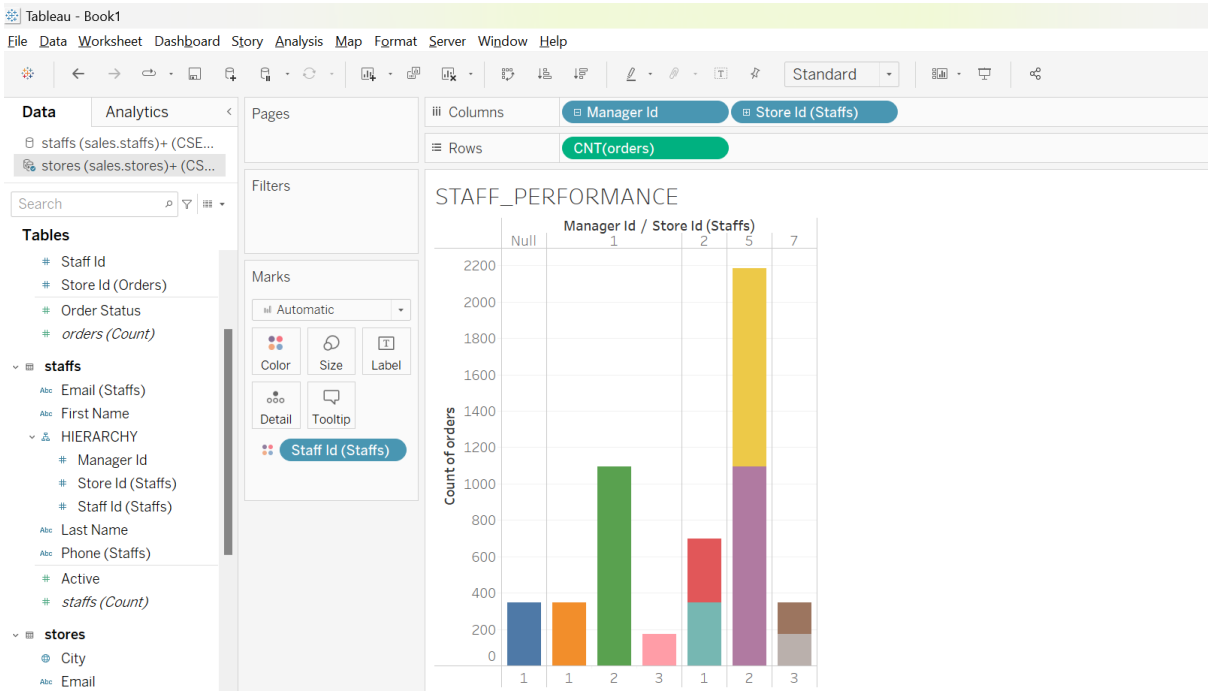


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Data
Analytics
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
Pages
Filters
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Staff Id (Staffs)
Columns
Manager Id
Store Id (Staffs)
Rows
CNT(orders)
STAFF_PERFORMANCE
Manager Id / Store Id (Staffs)
Null
1
2
5
7
Count of orders
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1
1
2
3
1
2
3

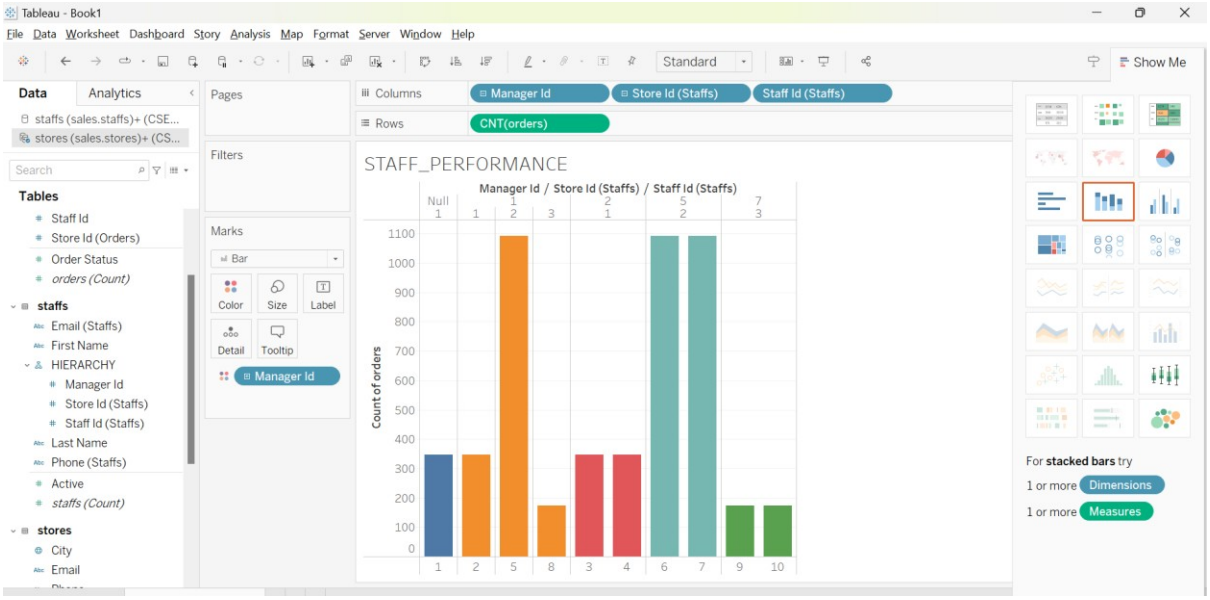


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Show Me
Data
Analytics
Pages
Columns
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Rows
CNT(orders)
Filters
Marks
Bar
Color
Size
Label
Detail
Tooltip
Manager Id
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
STAFF_PERFORMANCE
Manager Id / Store Id (Staffs) / Staff Id (Staffs)
Count of orders
For stacked bars try
1 or more Dimensions
1 or more Measures

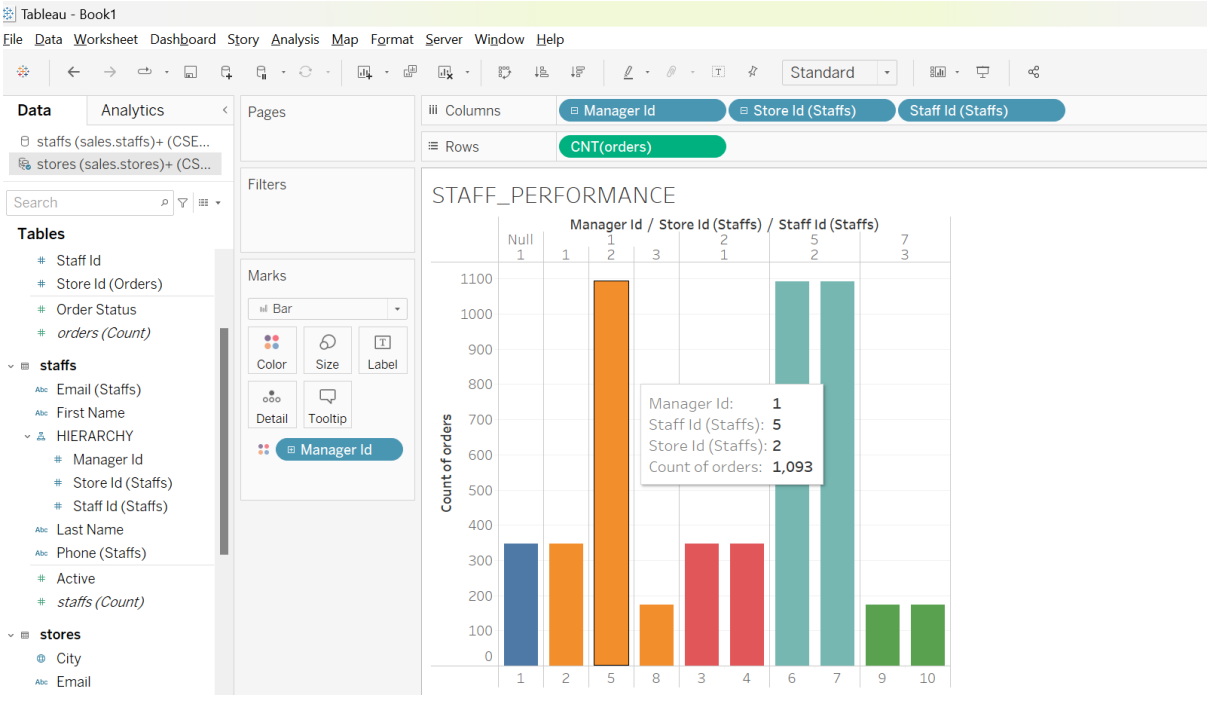


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Data
Analytics
Pages
Columns
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Rows
CNT(orders)
Filters
Marks
Bar
Color
Size
Label
Detail
Tooltip
Manager Id
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
STAFF_PERFORMANCE
Manager Id / Store Id (Staffs) / Staff Id (Staffs)
Count of orders
Manager Id: 1
Staff Id (Staffs): 5
Store Id (Staffs): 2
Count of orders: 1,093

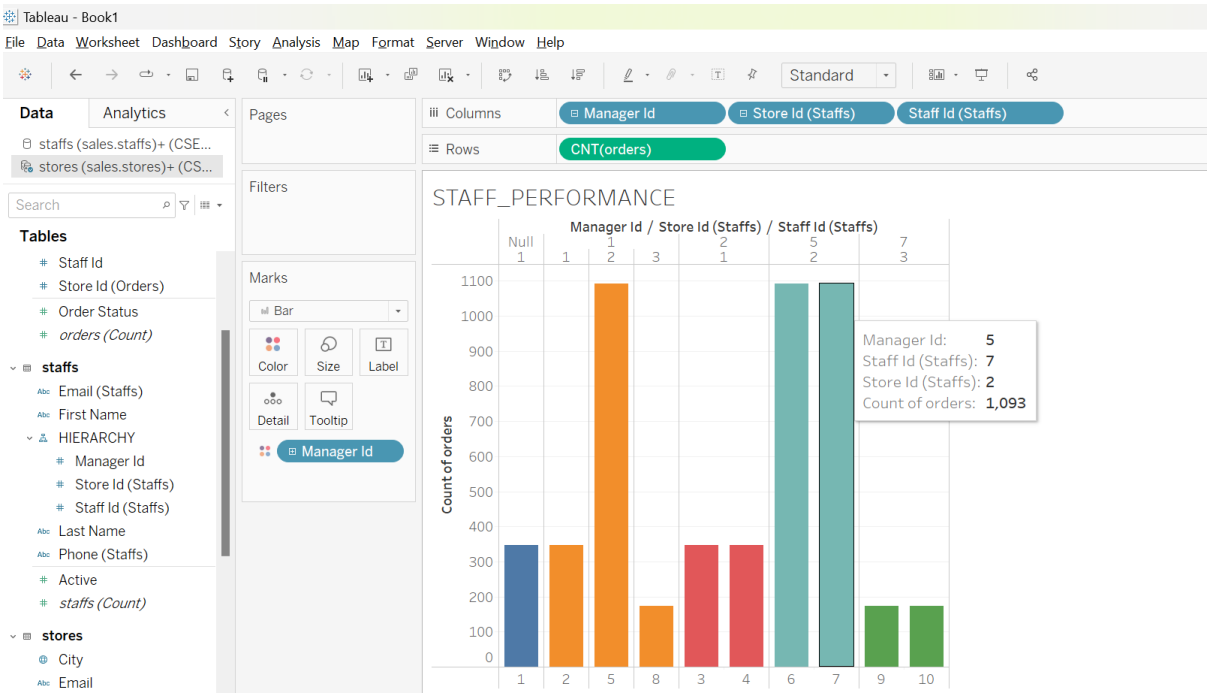


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Data
Analytics
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
Pages
Filters
Marks
Bar
Color
Size
Label
Detail
Tooltip
Manager Id
Columns
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Rows
CNT(orders)
STAFF_PERFORMANCE
Manager Id / Store Id (Staffs) / Staff Id (Staffs)
Null 1
1 1
1 2
2 3
2 1
5 2
7 3
Count of orders
1100
1000
900
800
700
600
500
400
300
200
100
0
1 2 5 8 3 4 6 7 9 10
Manager Id: 5
Staff Id (Staffs): 7
Store Id (Staffs): 2
Count of orders: 1,093

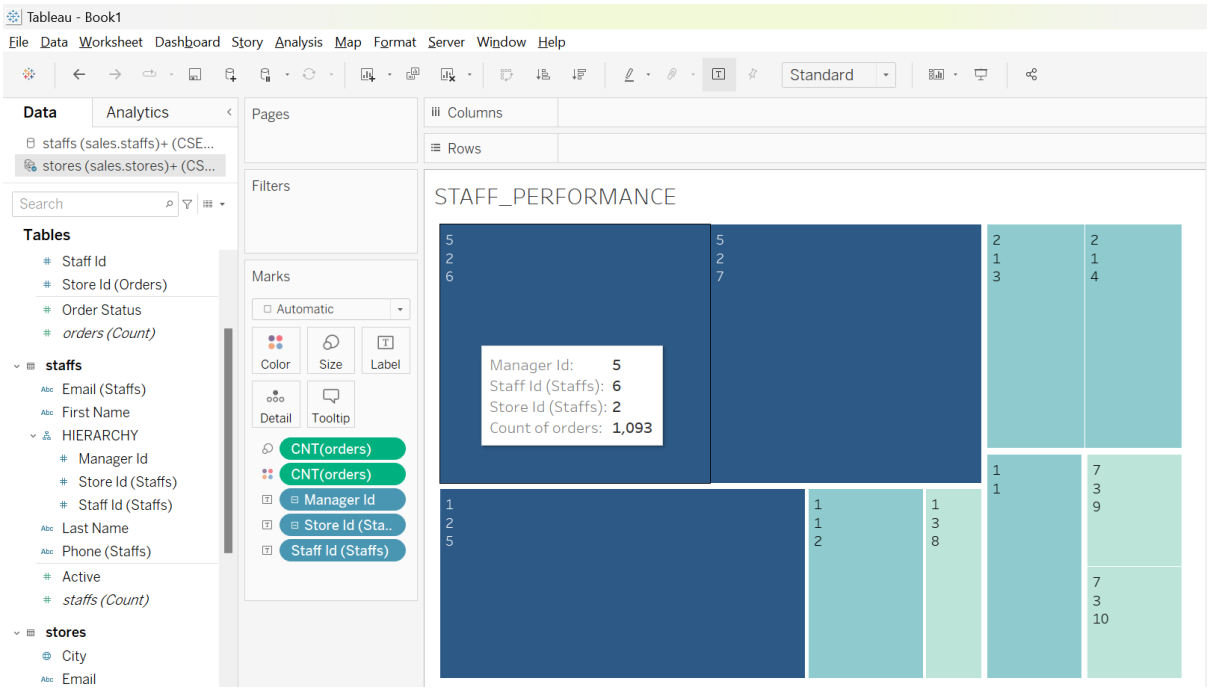


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Data
Analytics
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
Pages
Filters
Marks
Automatic
Color
Size
Label
Detail
Tooltip
CNT(orders)
CNT(orders)
Manager Id
Store Id (Sta..
Staff Id (Staffs)
Columns
Rows
STAFF_PERFORMANCE
5 2 6
5 2 7
2 1 3
2 1 4
1 2 5
1 1 2
1 3 8
1 1
7 3 9
7 3 10
Manager Id: 5
Staff Id (Staffs): 6
Store Id (Staffs): 2
Count of orders: 1,093

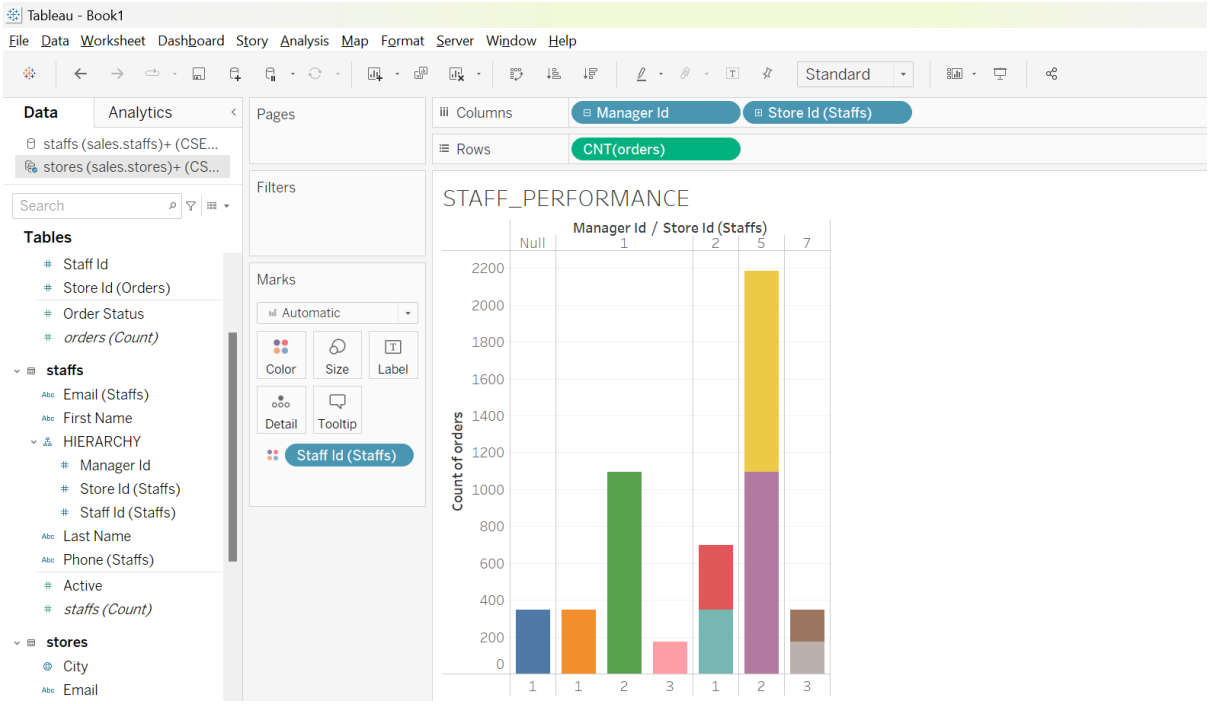


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Data
Analytics
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
Pages
Filters
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Staff Id (Staffs)
Columns
Manager Id
Store Id (Staffs)
Rows
CNT(orders)
STAFF_PERFORMANCE
Manager Id / Store Id (Staffs)
Null
1
2
5
7
Count of orders
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1
1
2
3
1
2
3

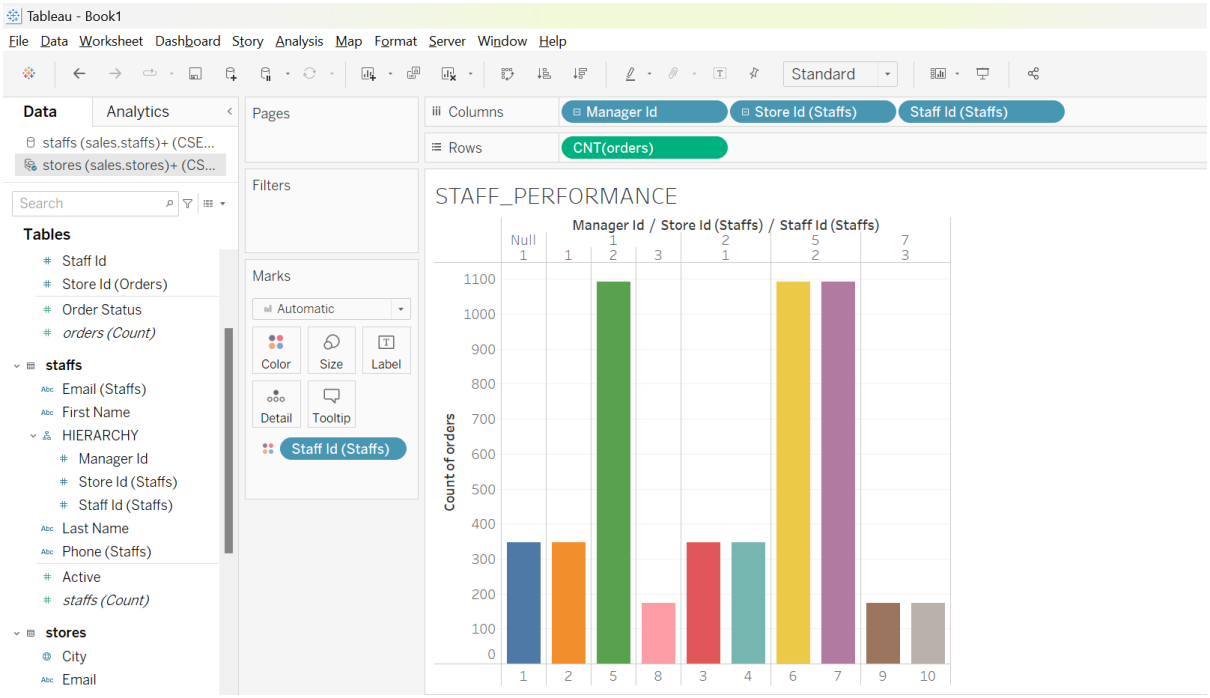


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Data
Analytics
staffs (sales.staffs)+ (CSE...
stores (sales.stores)+ (CS...
Search
Tables
Staff Id
Store Id (Orders)
Order Status
orders (Count)
staffs
Email (Staffs)
First Name
HIERARCHY
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Last Name
Phone (Staffs)
Active
staffs (Count)
stores
City
Email
Pages
Filters
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Staff Id (Staffs)
Columns
Manager Id
Store Id (Staffs)
Staff Id (Staffs)
Rows
CNT(orders)
STAFF_PERFORMANCE
Manager Id / Store Id (Staffs) / Staff Id (Staffs)
Null 1
1 1
1 2
2 1
5 2
7 3
Count of orders
1100
1000
900
800
700
600
500
400
300
200
100
0
1
2
5
8
3
4
6
7
9
10

Columns

Rows | Store Id (Staffs) | Manager Id | Staff Id (Staffs)

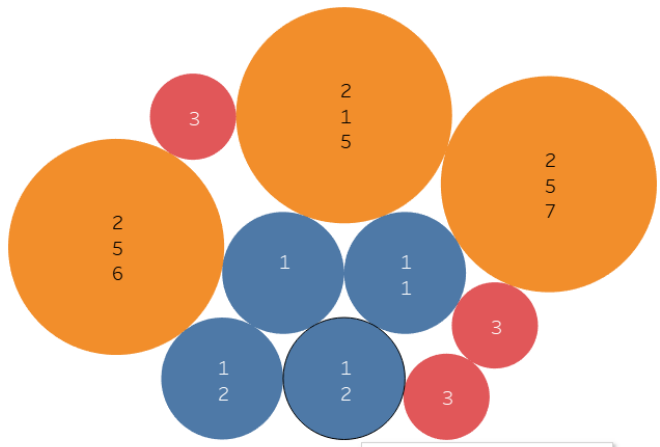
STAFF_PERFORMANCE

Store I..	Manager Id	Staff Id (Staffs)	
1	Null	1	348
	1	2	348
	2	3	348
		4	348
2	1	5	1,093
	5	6	1,093
		7	1,093
3	1	8	174
	7	9	174
		10	174

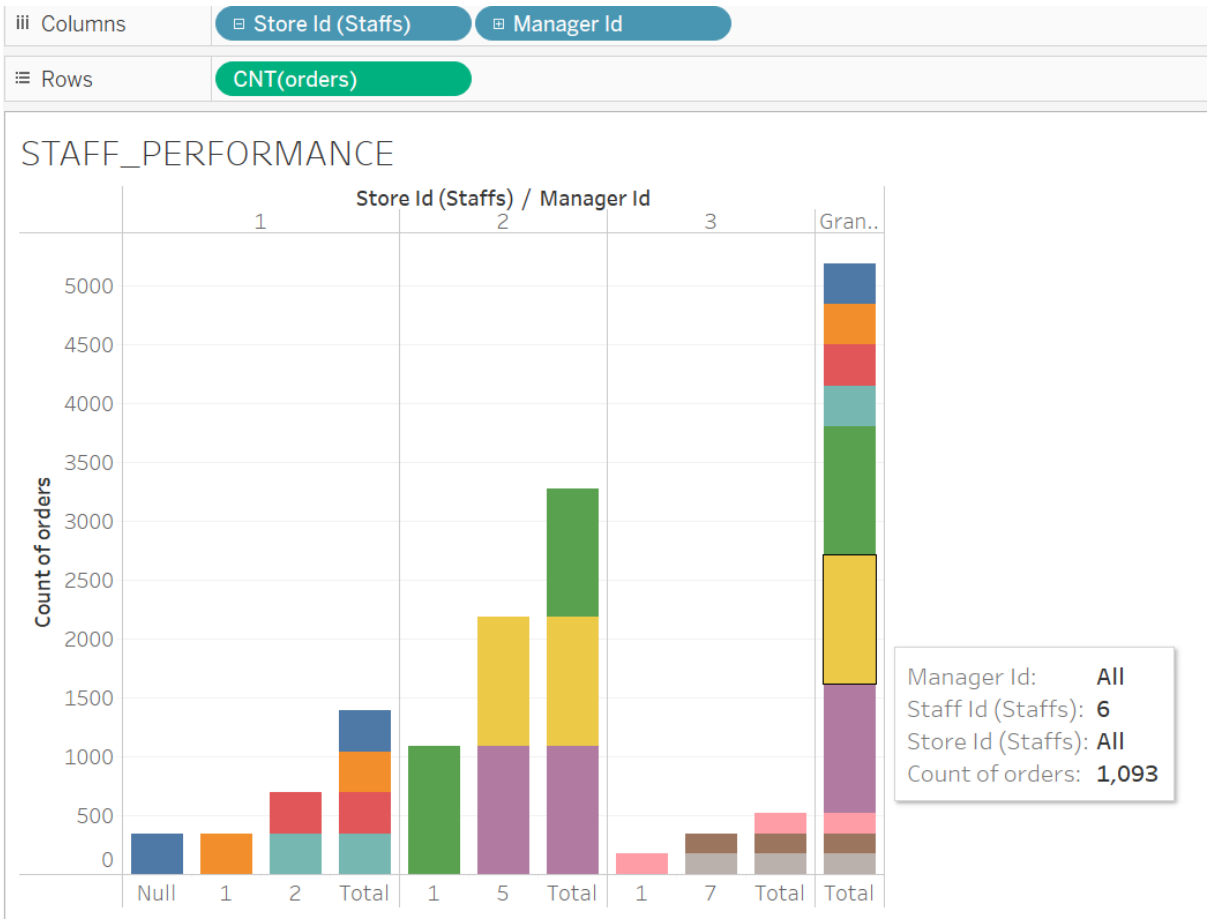
Columns

Rows

STAFF_PERFORMANCE



Manager Id: 2
Staff Id (Staffs): 3
Store Id (Staffs): 1
Count of orders: 348


Columns
Store Id (Staffs)
Manager Id
Rows
CNT(orders)
STAFF_PERFORMANCE
Store Id (Staffs) / Manager Id
1
2
3
Gran..
Count of orders
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Null
1
2
Total
1
5
Total
1
7
Total
Total
Manager Id: All
Staff Id (Staffs): 6
Store Id (Staffs): All
Count of orders: 1,093