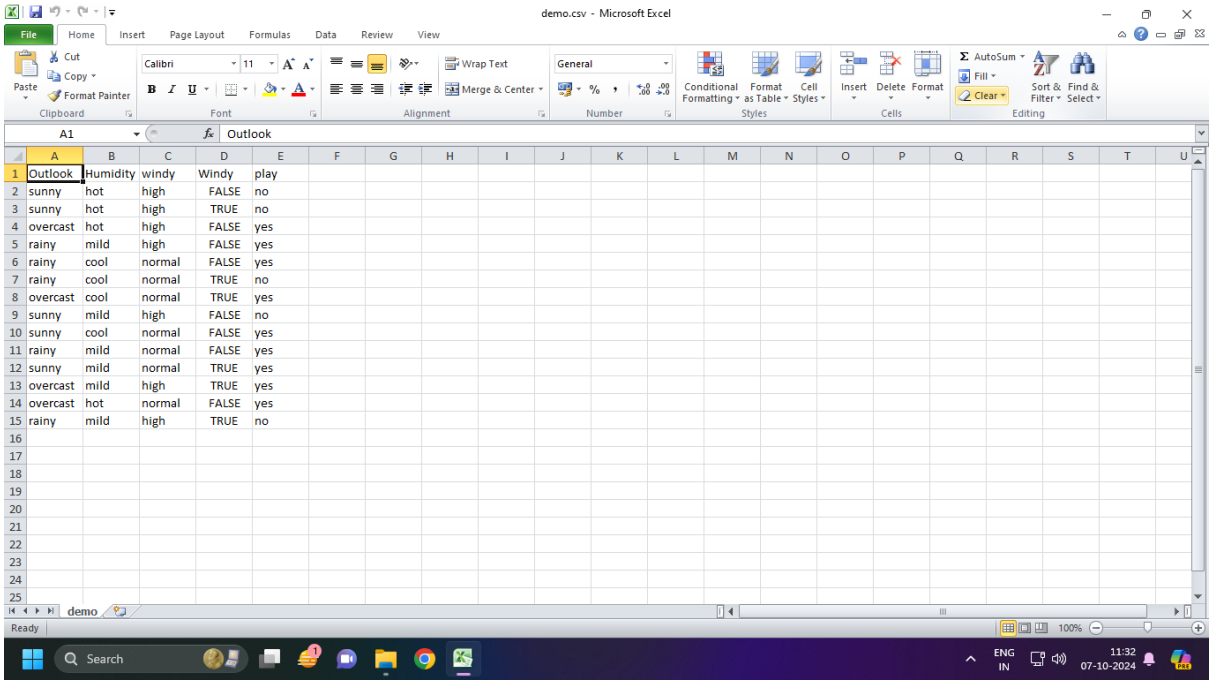
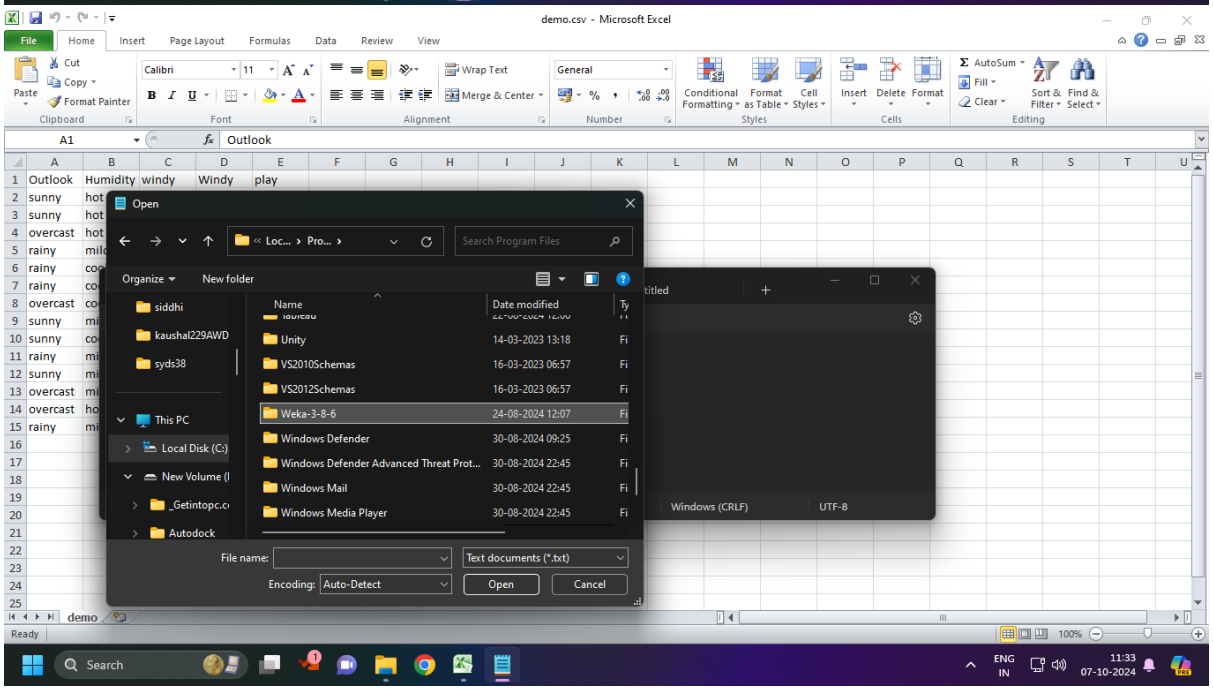
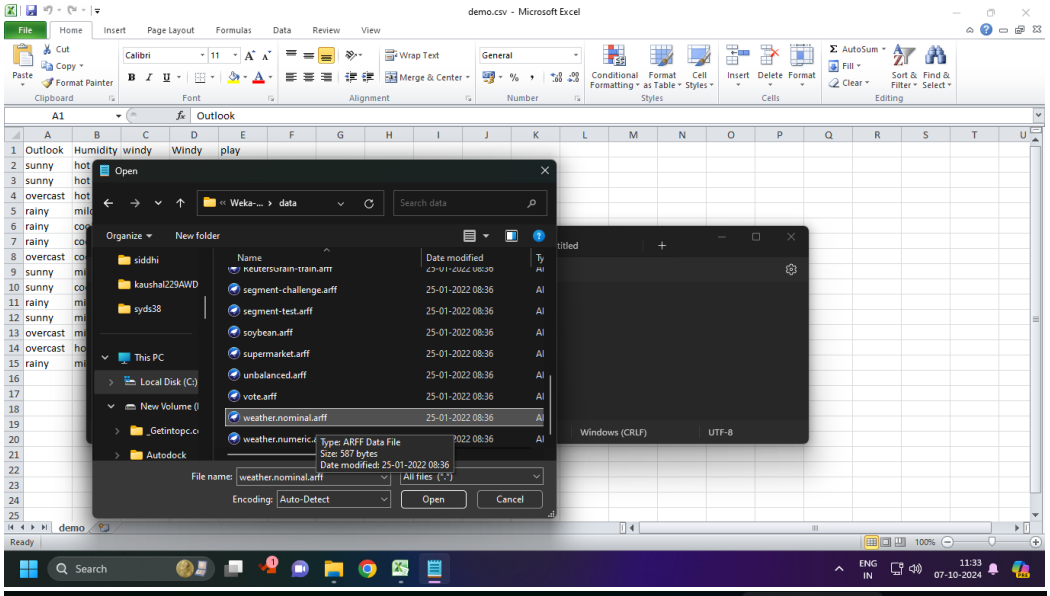
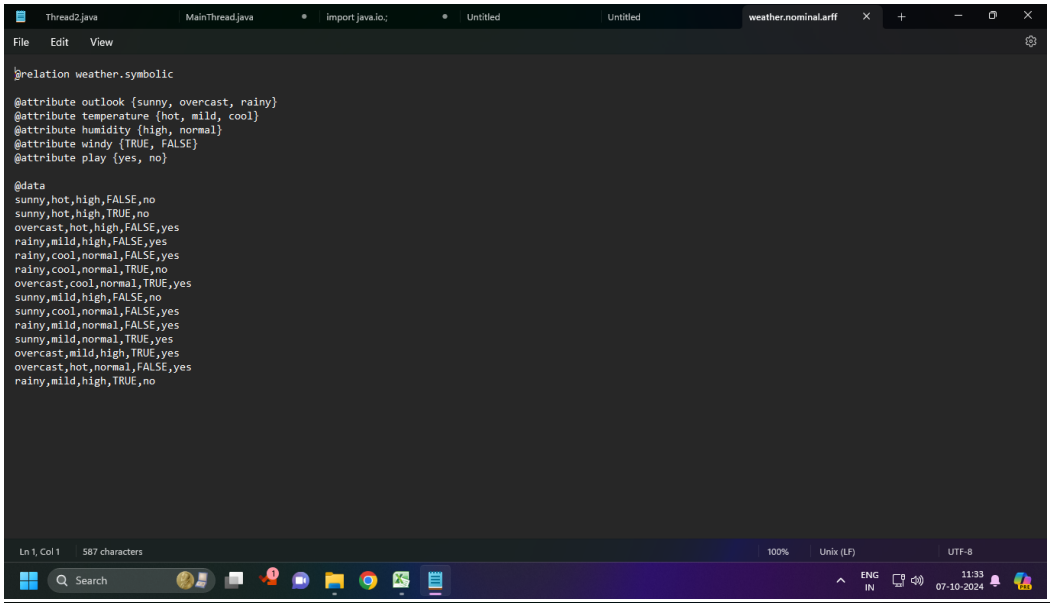
Practical No : 1

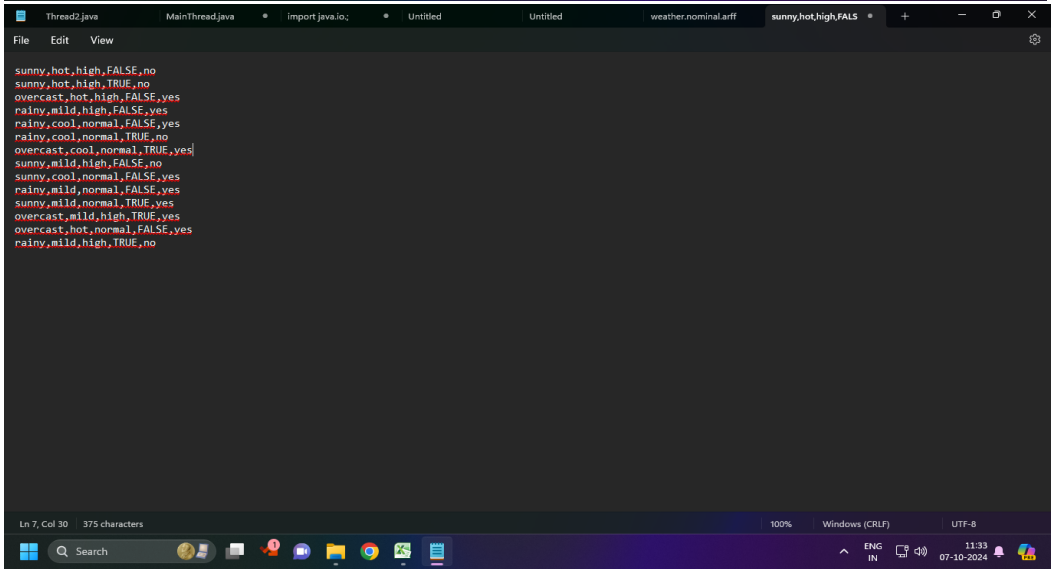
Aim : Extract data from access database to SQL server

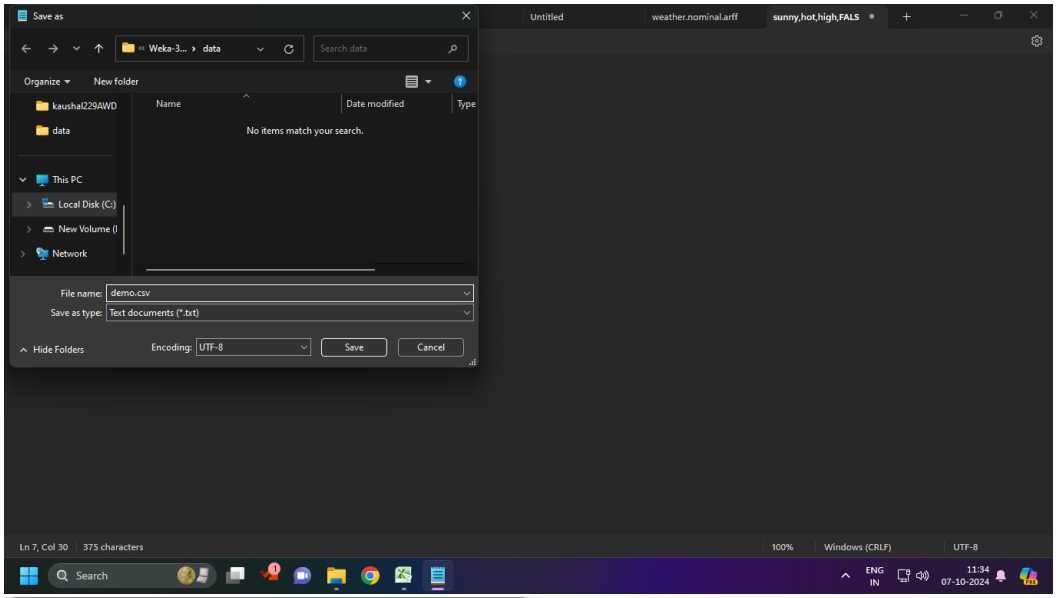


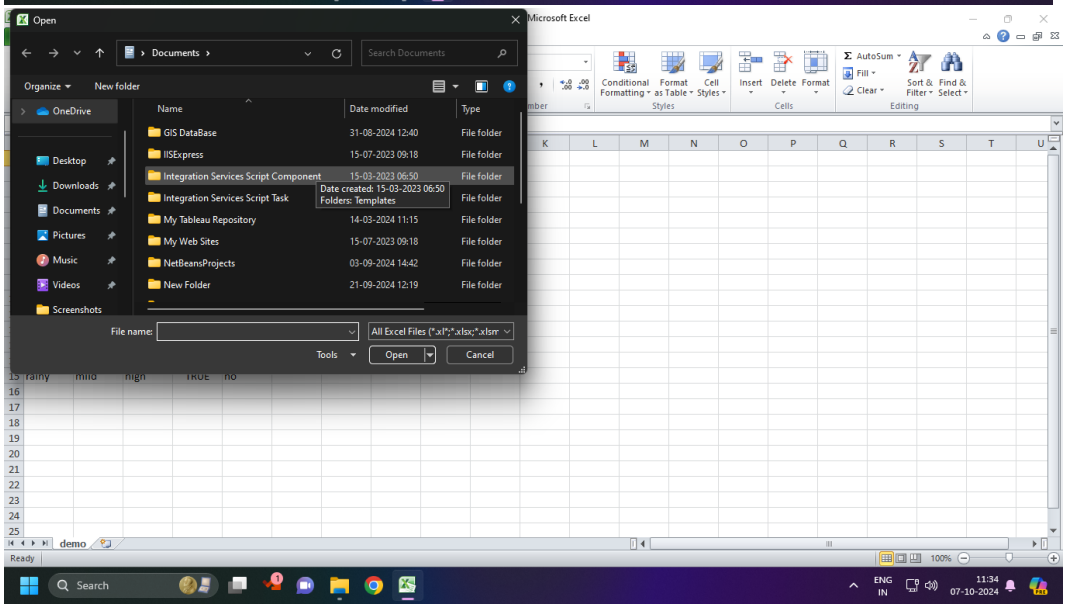


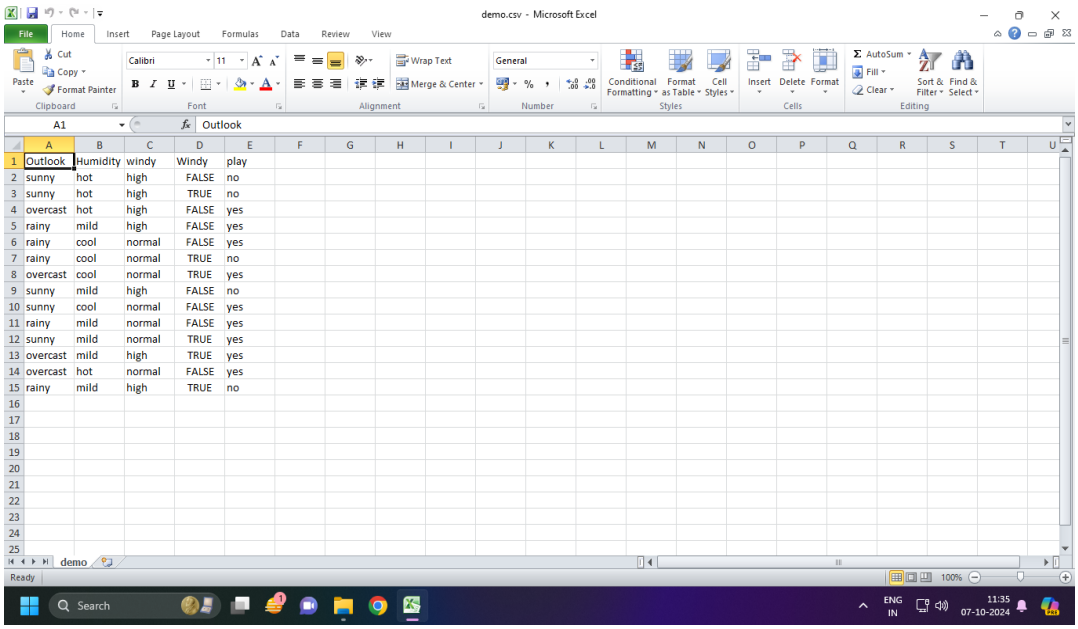

demo.csv - Microsoft Excel
Outlook
Humidity
windy
Windy
play
Open
weather.nominal.arff
Type: ARFF Data File
Size: 587 bytes
Date modified: 25-01-2022 08:36
File name: weather.nominal.arff
Encoding: Auto-Detect
Open
Cancel

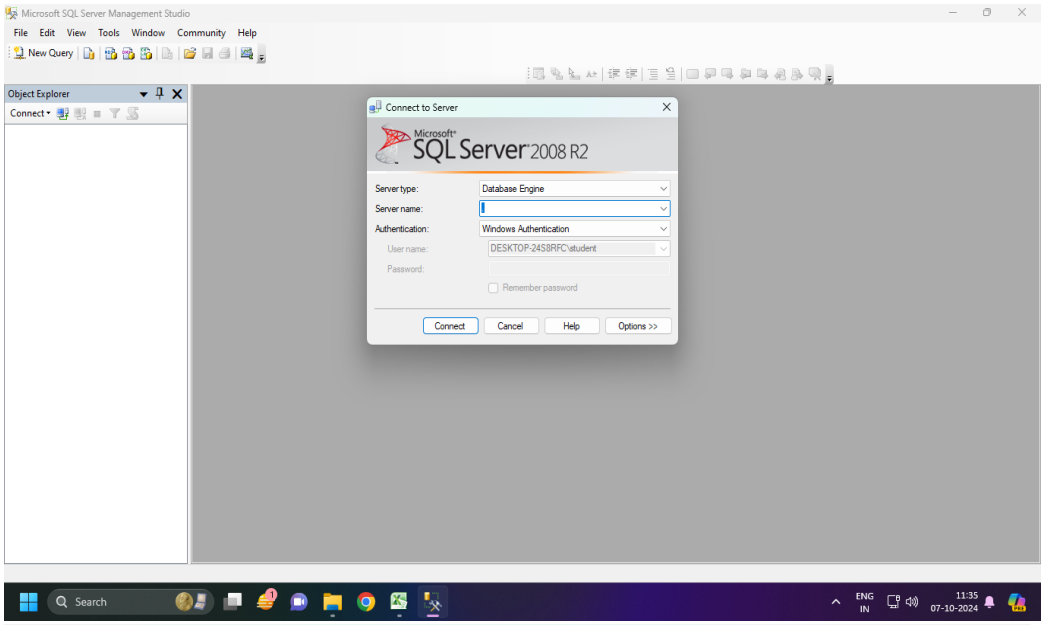

Thread2.java
MainThread.java
import java.io;
Untitled
Untitled
weather.nominal.arff
File Edit View
@relation weather.symbolic
@attribute outlook {sunny, overcast, rainy}
@attribute temperature {hot, mild, cool}
@attribute humidity {high, normal}
@attribute windy {TRUE, FALSE}
@attribute play {yes, no}
@data
sunny,hot,high,FALSE,no
sunny,hot,high,TRUE,no
overcast,hot,high,FALSE,yes
rainy,mild,high,FALSE,yes
rainy,cool,normal,FALSE,yes
rainy,cool,normal,TRUE,no
overcast,cool,normal,TRUE,yes
sunny,mild,high,FALSE,no
sunny,cool,normal,FALSE,yes
rainy,mild,normal,FALSE,yes
sunny,mild,normal,TRUE,yes
overcast,mild,high,TRUE,yes
overcast,hot,normal,FALSE,yes
rainy,mild,high,TRUE,no
Ln 1, Col 1
587 characters
100%
Unix (LF)
UTF-8

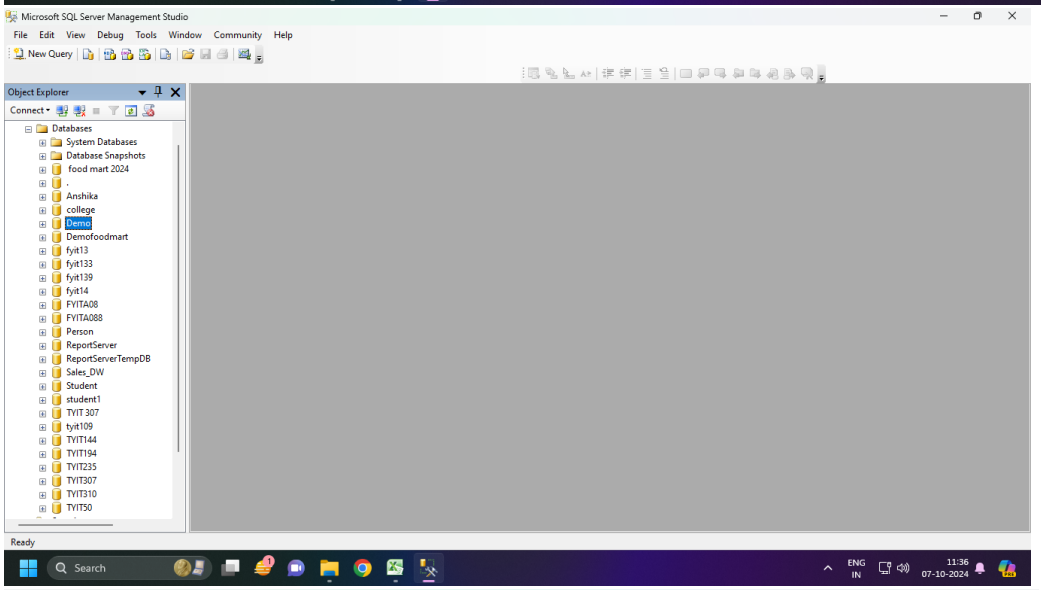

Thread2.java
MainThread.java
import java.io;
Untitled
Untitled
weather.nominal.arff
sunny,hot,high,FALS
File Edit View
sunny,hot,high,FALSE,no
sunny,hot,high,TRUE,no
overcast,hot,high,FALSE,yes
rainy,mild,high,FALSE,yes
rainy,cool,normal,FALSE,yes
rainy,cool,normal,TRUE,no
overcast,cool,normal,TRUE,yes
sunny,mild,high,FALSE,no
sunny,cool,normal,FALSE,yes
rainy,mild,normal,FALSE,yes
sunny,mild,normal,TRUE,yes
overcast,mild,high,TRUE,yes
overcast,hot,normal,FALSE,yes
rainy,mild,high,TRUE,no
Ln 7, Col 30
375 characters
100%
Windows (CRLF)
UTF-8

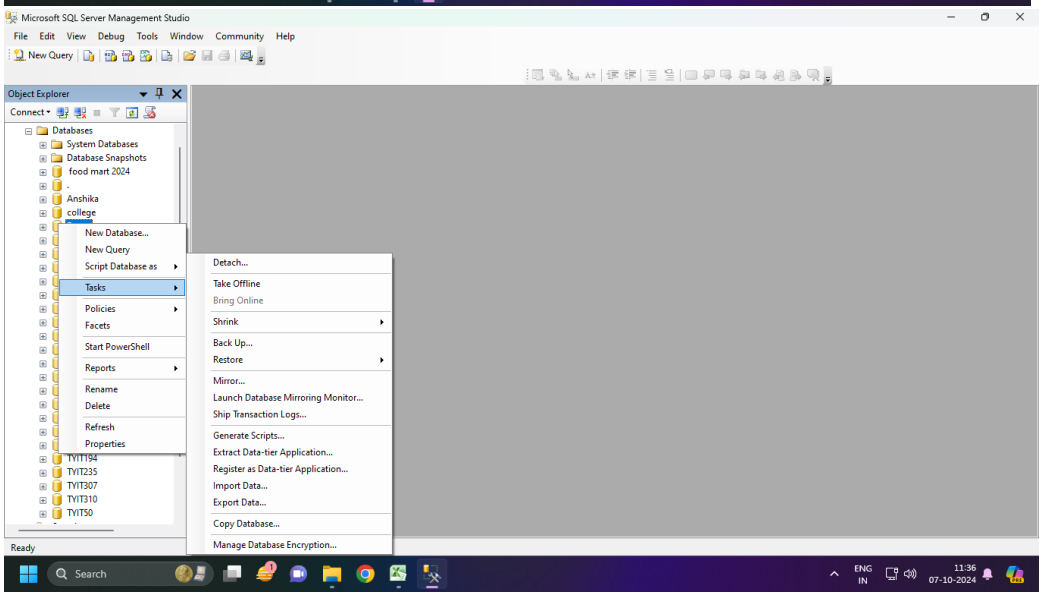

Save as
Weka-3... › data
Search data
Organize
New folder
kaushal229AWD
data
This PC
Local Disk (C:)
New Volume (I
Network
Name
Date modified
Type
No items match your search.
File name: demo.csv
Save as type: Text documents (*.txt)
Hide Folders
Encoding: UTF-8
Save
Cancel
Untitled
weather.nominal.arff
sunny,hot,high,FALS
Ln 7, Col 30
375 characters
100%
Windows (CRLF)
UTF-8
Search
ENG
IN
11:34
07-10-2024

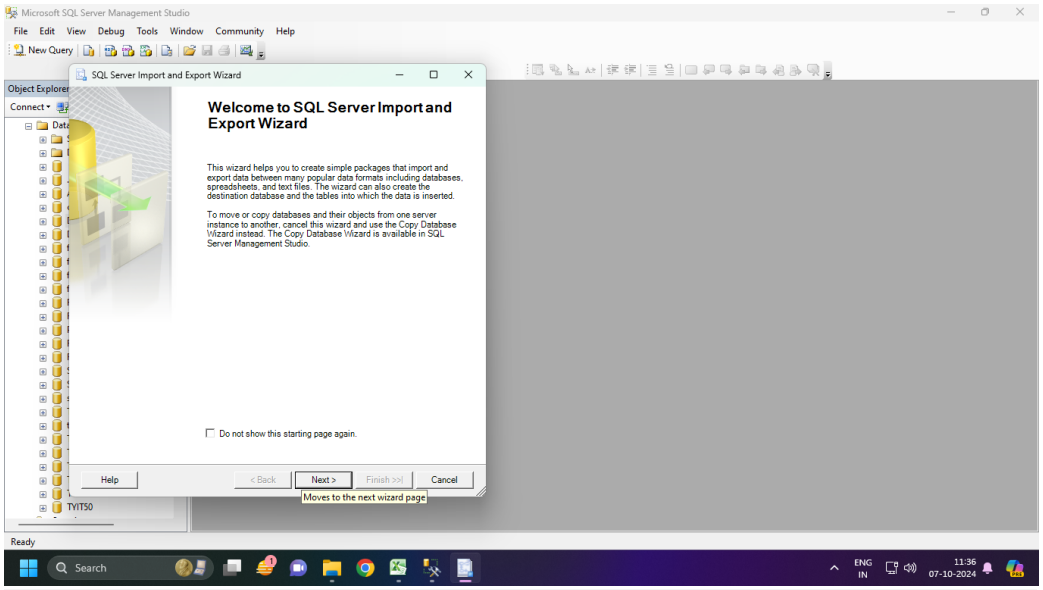

Open
Documents ›
Search Documents
Organize
New folder
OneDrive
Desktop
Downloads
Documents
Pictures
Music
Videos
Screenshots
Name
Date modified
Type
GIS DataBase 31-08-2024 12:40 File folder
IISExpress 15-07-2023 09:18 File folder
Integration Services Script Component 15-03-2023 06:50 File folder
Integration Services Script Task File folder
My Tableau Repository 14-03-2024 11:15 File folder
My Web Sites 15-07-2023 09:18 File folder
NetBeansProjects 03-09-2024 14:42 File folder
New Folder 21-09-2024 12:19 File folder
Date created: 15-03-2023 06:50
Folders: Templates
File name:
All Excel Files (*.xl*;*.xlsx;*.xlsm
Tools
Open
Cancel
Microsoft Excel
AutoSum
Fill
Clear
Sort & Filter
Find & Select
Conditional Formatting
Format as Table
Cell Styles
Insert
Delete
Format
Styles
Cells
Editing
demo
Ready
100%
Search
ENG
IN
11:34
07-10-2024

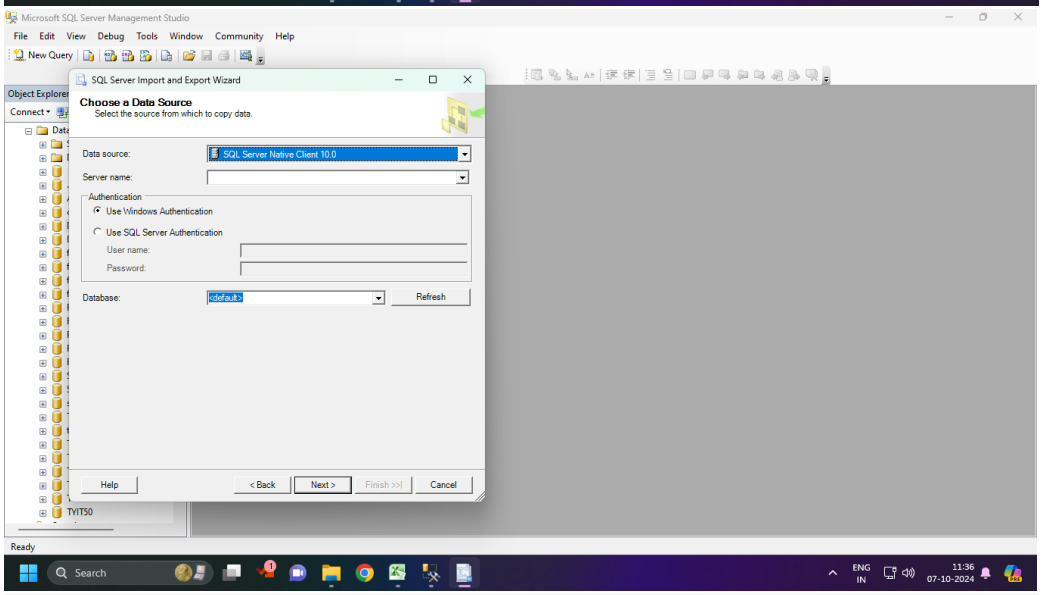

demo.csv - Microsoft Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Cut
Copy
Format Painter
Paste
Clipboard
Calibri
11
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Cell Styles
Styles
Insert
Delete
Format
Cells
AutoSum
Fill
Clear
Sort & Filter
Find & Select
Editing
A1
Outlook
Outlook Humidity windy Windy play
sunny hot high FALSE no
sunny hot high TRUE no
overcast hot high FALSE yes
rainy mild high FALSE yes
rainy cool normal FALSE yes
rainy cool normal TRUE no
overcast cool normal TRUE yes
sunny mild high FALSE no
sunny cool normal FALSE yes
rainy mild normal FALSE yes
sunny mild normal TRUE yes
overcast mild high TRUE yes
overcast hot normal FALSE yes
rainy mild high TRUE no
demo
Ready
100%
Search
ENG
IN
11:35
07-10-2024

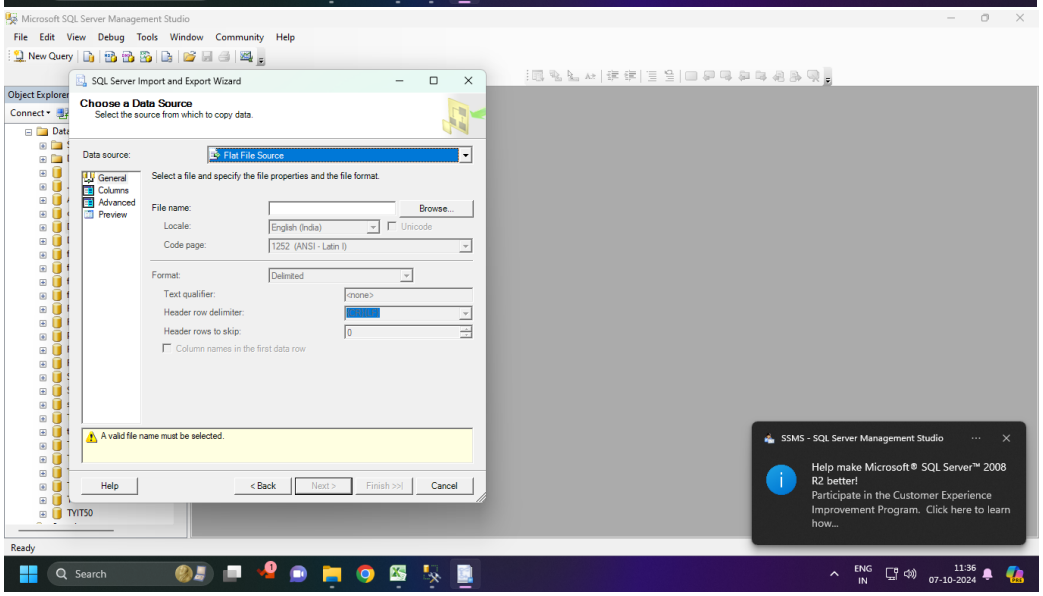

Microsoft SQL Server Management Studio
File Edit View Tools Window Community Help
New Query
Object Explorer
Connect
Connect to Server
Microsoft SQL Server 2008 R2
Server type: Database Engine
Server name:
Authentication: Windows Authentication
User name: DESKTOP-24S8RFC\student
Password:
Remember password
Connect Cancel Help Options >>
Search
ENG IN
11:35
07-10-2024

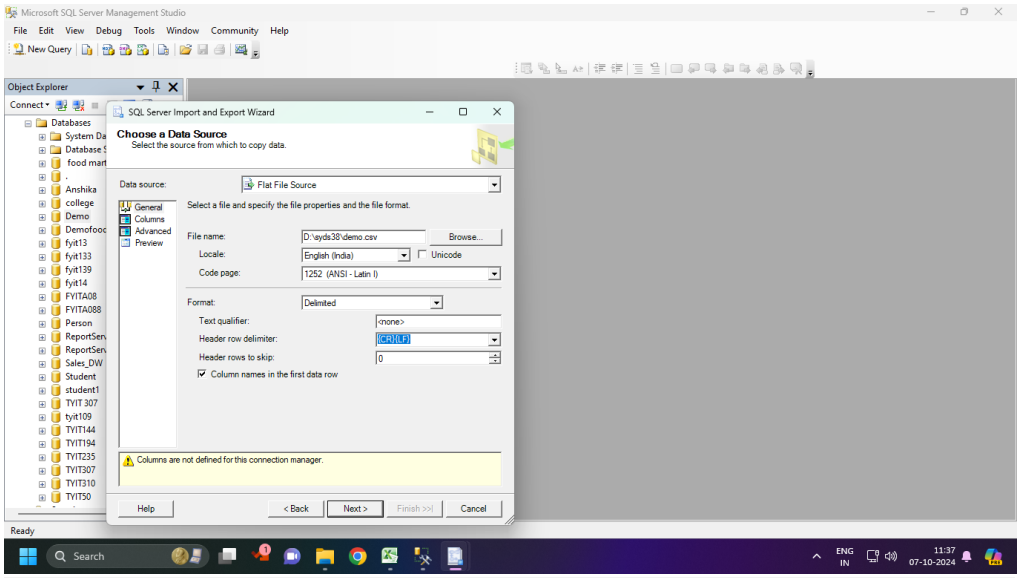

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
System Databases
Database Snapshots
food mart 2024
Anshika
college
Demo
Demofoodmart
fyit13
fyit133
fyit139
fyit14
FYITA08
FYITA088
Person
ReportServer
ReportServerTempDB
Sales_DW
Student
student1
TYIT 307
tyit109
TYIT144
TYIT194
TYIT235
TYIT307
TYIT310
TYIT50
Ready
Search
ENG IN
11:36
07-10-2024

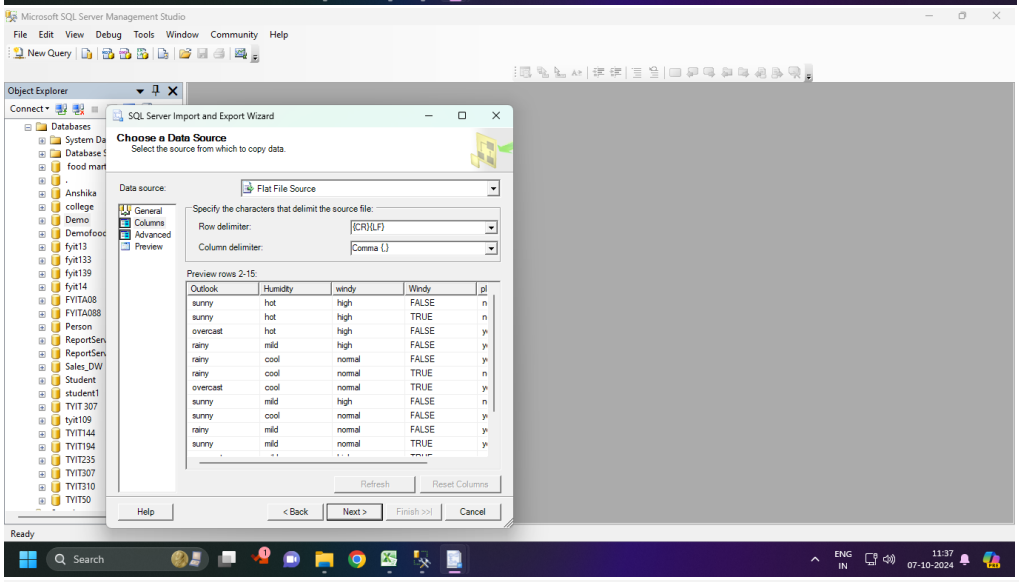

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
System Databases
Database Snapshots
food mart 2024
Anshika
college
New Database...
New Query
Script Database as
Tasks
Policies
Facets
Start PowerShell
Reports
Rename
Delete
Refresh
Properties
Detach...
Take Offline
Bring Online
Shrink
Back Up...
Restore
Mirror...
Launch Database Mirroring Monitor...
Ship Transaction Logs...
Generate Scripts...
Extract Data-tier Application...
Register as Data-tier Application...
Import Data...
Export Data...
Copy Database...
Manage Database Encryption...
TYIT194
TYIT235
TYIT307
TYIT310
TYIT50
Ready
Search
ENG IN
11:36
07-10-2024

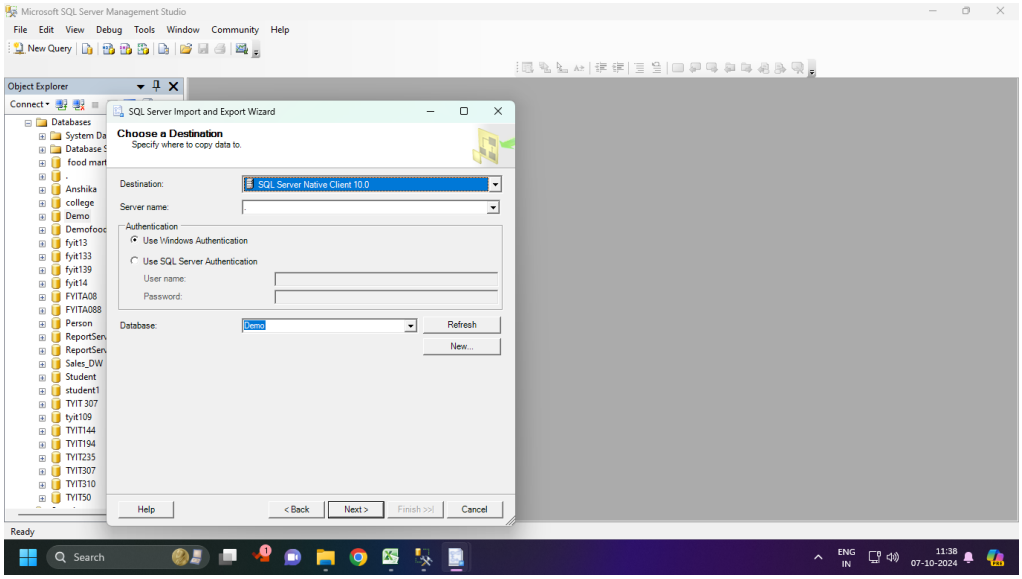

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
SQL Server Import and Export Wizard
Welcome to SQL Server Import and Export Wizard
This wizard helps you to create simple packages that import and export data between many popular data formats including databases, spreadsheets, and text files. The wizard can also create the destination database and the tables into which the data is inserted.
To move or copy databases and their objects from one server instance to another, cancel this wizard and use the Copy Database Wizard instead. The Copy Database Wizard is available in SQL Server Management Studio.
Do not show this starting page again.
Help
< Back
Next >
Finish >>|
Cancel
Moves to the next wizard page
TYIT50
Ready
Search
ENG IN
11:36
07-10-2024

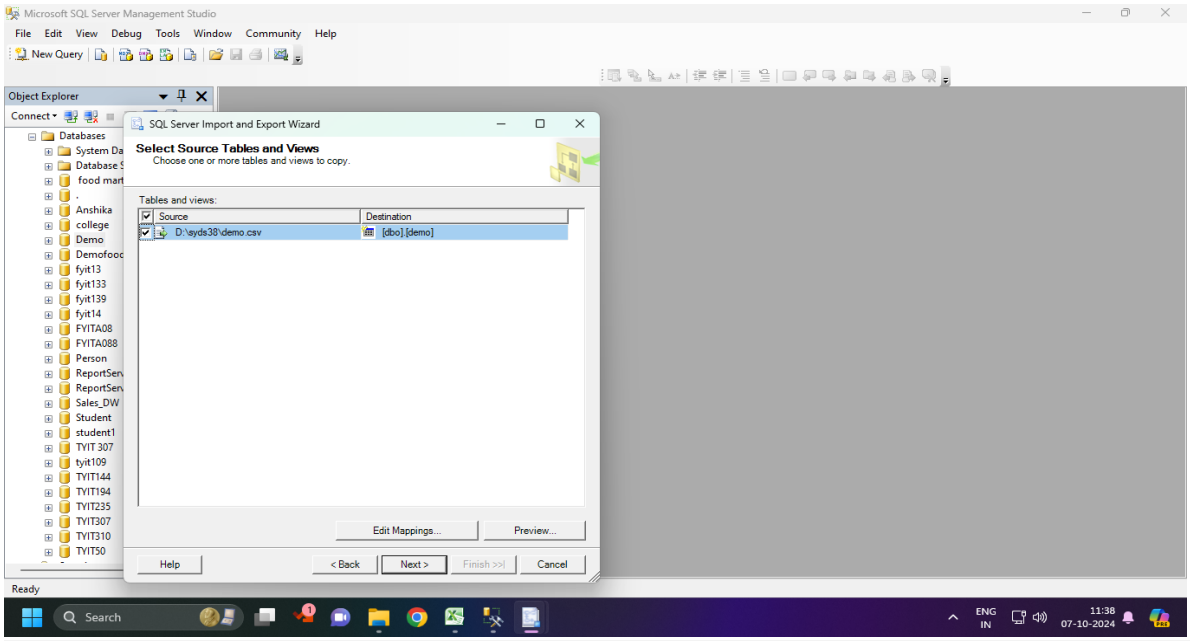

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
SQL Server Import and Export Wizard
Choose a Data Source
Select the source from which to copy data.
Data source:
SQL Server Native Client 10.0
Server name:
Authentication
Use Windows Authentication
Use SQL Server Authentication
User name:
Password:
Database:
<default>
Refresh
Help
< Back
Next >
Finish >>|
Cancel
TYIT50
Ready
Search
ENG IN
11:36
07-10-2024

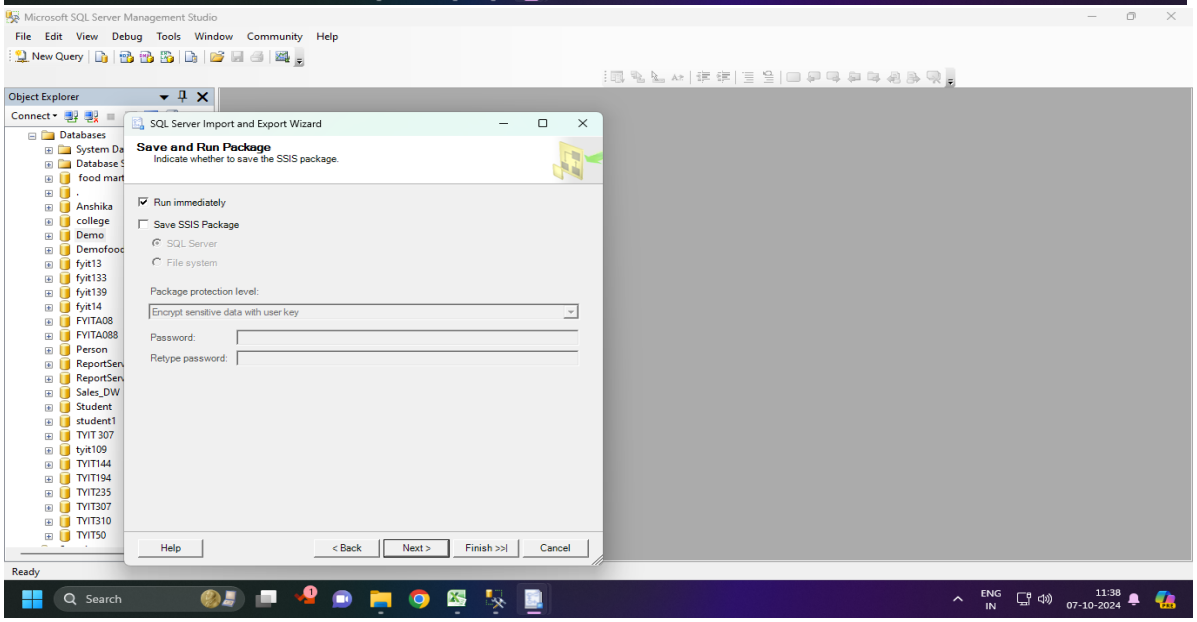

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
SQL Server Import and Export Wizard
Choose a Data Source
Select the source from which to copy data.
Data source:
Flat File Source
General
Columns
Advanced
Preview
Select a file and specify the file properties and the file format.
File name:
Browse...
Locale:
English (India)
Unicode
Code page:
1252 (ANSI - Latin I)
Format:
Delimited
Text qualifier:
<none>
Header row delimiter:
Header rows to skip:
0
Column names in the first data row
A valid file name must be selected.
Help
< Back
Next >
Finish >>|
Cancel
SSMS - SQL Server Management Studio
Help make Microsoft® SQL Server™ 2008 R2 better!
Participate in the Customer Experience Improvement Program. Click here to learn how...
TYIT50
Ready
Search
ENG IN
11:36
07-10-2024

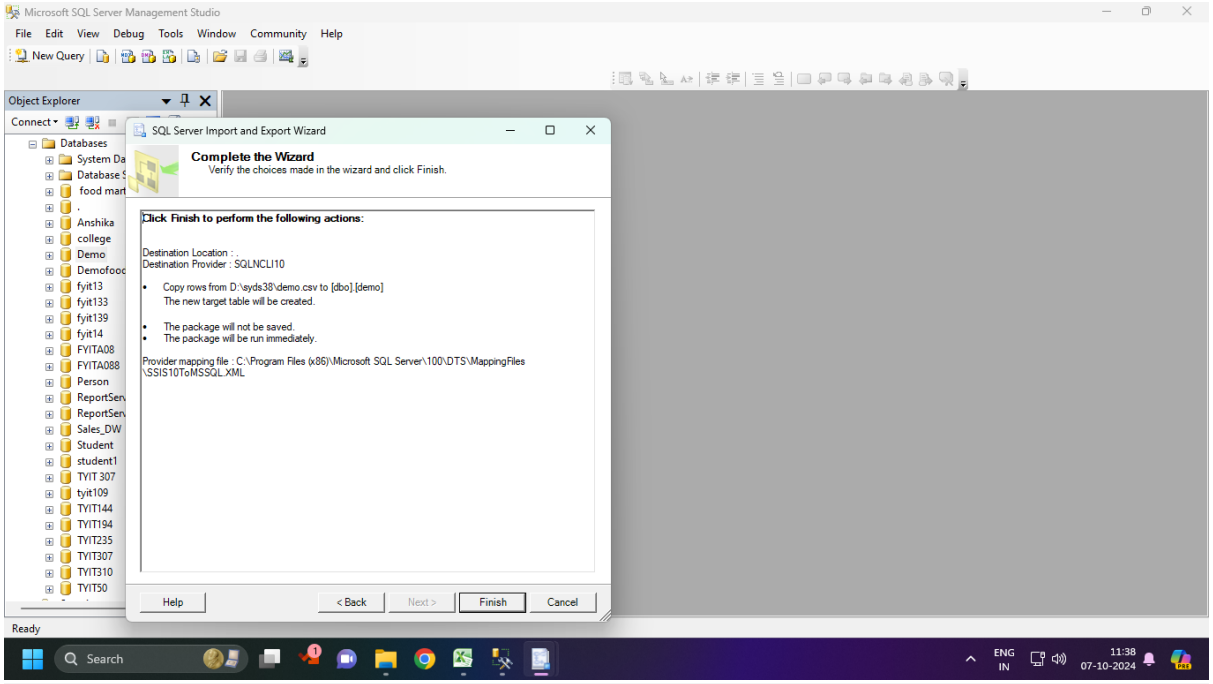

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Choose a Data Source
Select the source from which to copy data.
Data source:
Flat File Source
General
Columns
Advanced
Preview
Select a file and specify the file properties and the file format.
File name:
D:\syds38\demo.csv
Browse...
Locale:
English (India)
Unicode
Code page:
1252 (ANSI - Latin I)
Format:
Delimited
Text qualifier:
<none>
Header row delimiter:
{CR}{LF}
Header rows to skip:
0
Column names in the first data row
Columns are not defined for this connection manager.
Help
< Back
Next >
Finish >>|
Cancel
Ready
Search
ENG
IN
11:37
07-10-2024

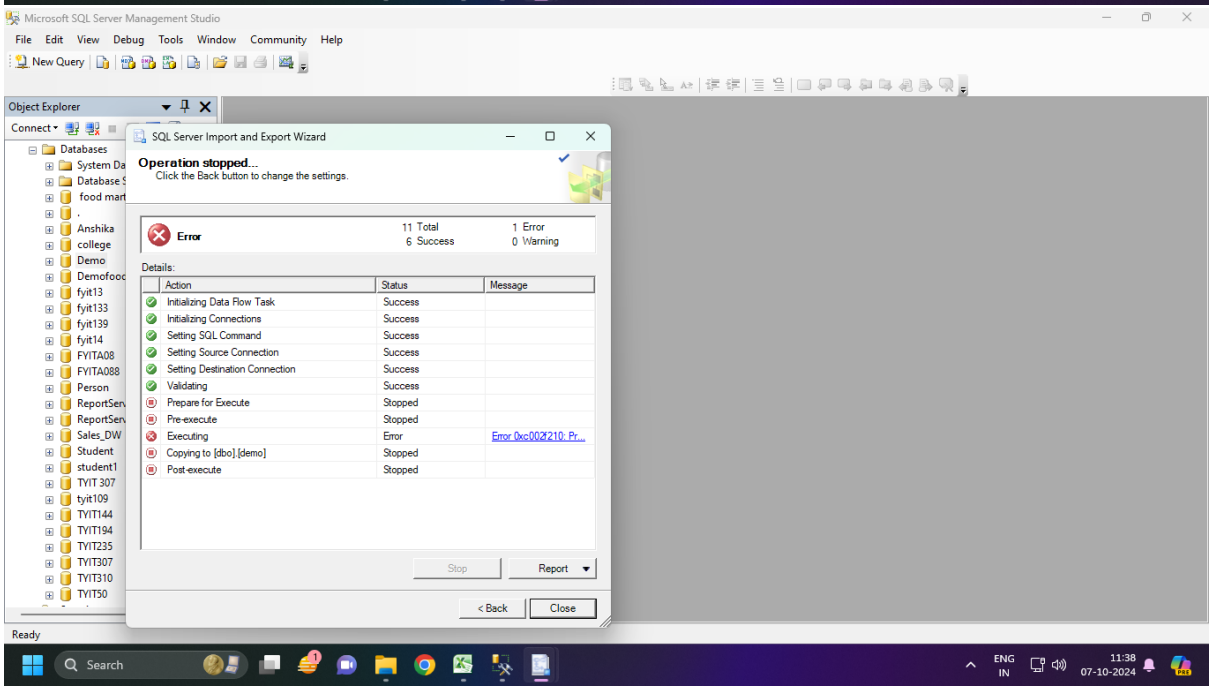

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Choose a Data Source
Select the source from which to copy data.
Data source:
Flat File Source
General
Columns
Advanced
Preview
Specify the characters that delimit the source file:
Row delimiter:
{CR}{LF}
Column delimiter:
Comma {,}
Preview rows 2-15:
Outlook
Humidity
windy
Windy
sunny hot high FALSE
sunny hot high TRUE
overcast hot high FALSE
rainy mild high FALSE
rainy cool normal FALSE
rainy cool normal TRUE
overcast cool normal TRUE
sunny mild high FALSE
sunny cool normal FALSE
rainy mild normal FALSE
sunny mild normal TRUE
Refresh
Reset Columns
Help
< Back
Next >
Finish >>|
Cancel
Ready
Search
ENG
IN
11:37
07-10-2024


Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Choose a Destination
Specify where to copy data to.
Destination:
SQL Server Native Client 10.0
Server name:
Authentication
Use Windows Authentication
Use SQL Server Authentication
User name:
Password:
Database:
Demo
Refresh
New...
Help
< Back
Next >
Finish >>|
Cancel
Ready
Search
ENG
IN
11:38
07-10-2024


Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Select Source Tables and Views
Choose one or more tables and views to copy.
Tables and views:
Source
Destination
D:\syds38\demo.csv
[dbo].[demo]
Edit Mappings...
Preview...
Help
< Back
Next >
Finish >>|
Cancel
Ready
Search
ENG
IN
11:38
07-10-2024

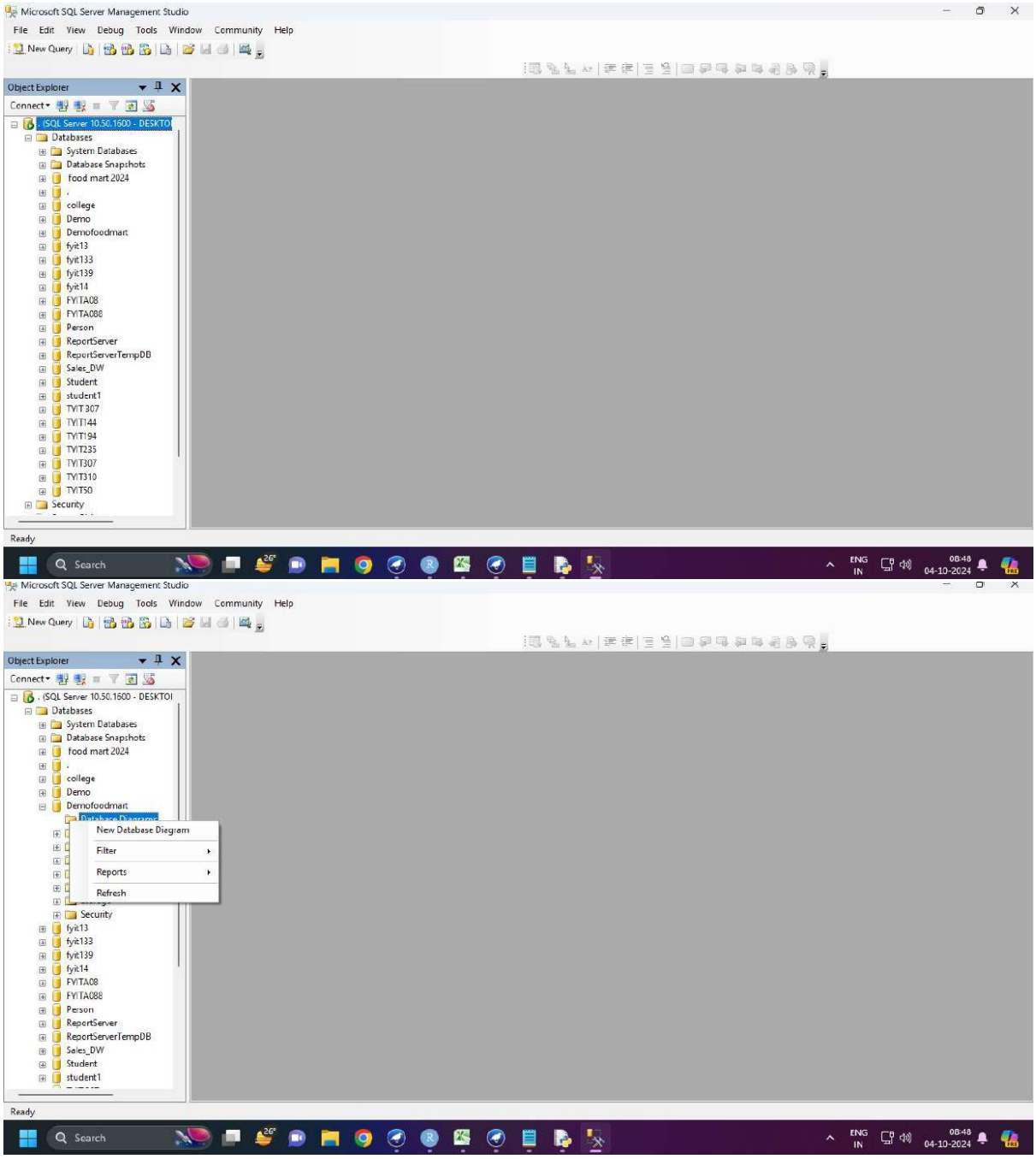

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Save and Run Package
Indicate whether to save the SSIS package.
Run immediately
Save SSIS Package
SQL Server
File system
Package protection level:
Encrypt sensitive data with user key
Password:
Retype password:
Help
< Back
Next >
Finish >>|
Cancel
Ready
Search
ENG
IN
11:38
07-10-2024

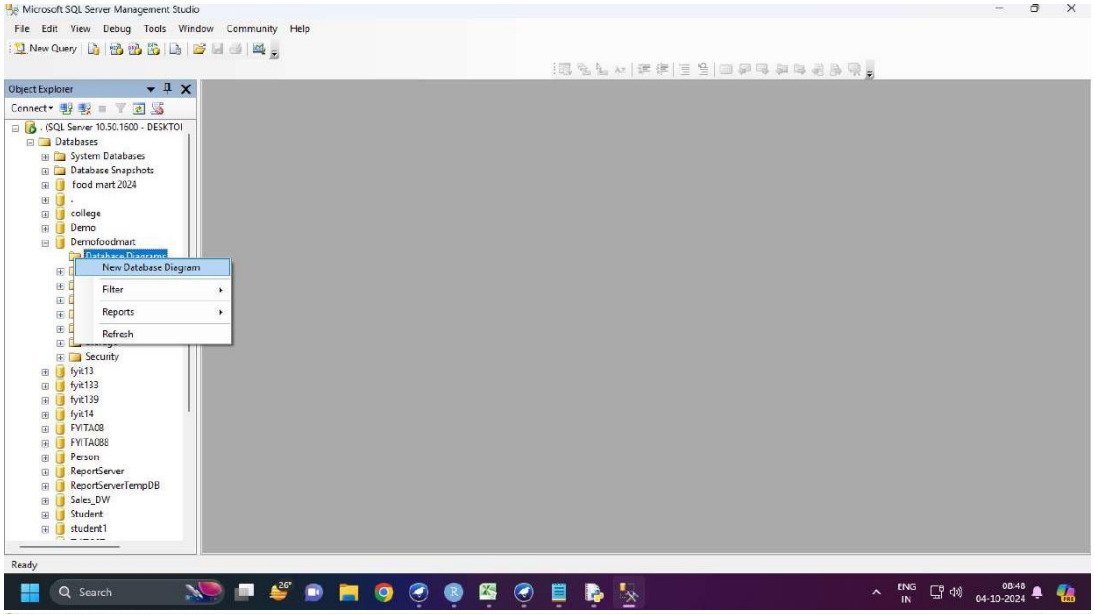

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Complete the Wizard
Verify the choices made in the wizard and click Finish.
Click Finish to perform the following actions:
Destination Location : .
Destination Provider : SQLNCLI10
Copy rows from D:\syds38\demo.csv to [dbo].[demo]
The new target table will be created.
The package will not be saved.
The package will be run immediately.
Provider mapping file : C:\Program Files (x86)\Microsoft SQL Server\100\DTS\MappingFiles\SSIS10ToMSSQL.XML
Help
< Back
Next >
Finish
Cancel
Ready
Search
ENG IN
11:38
07-10-2024

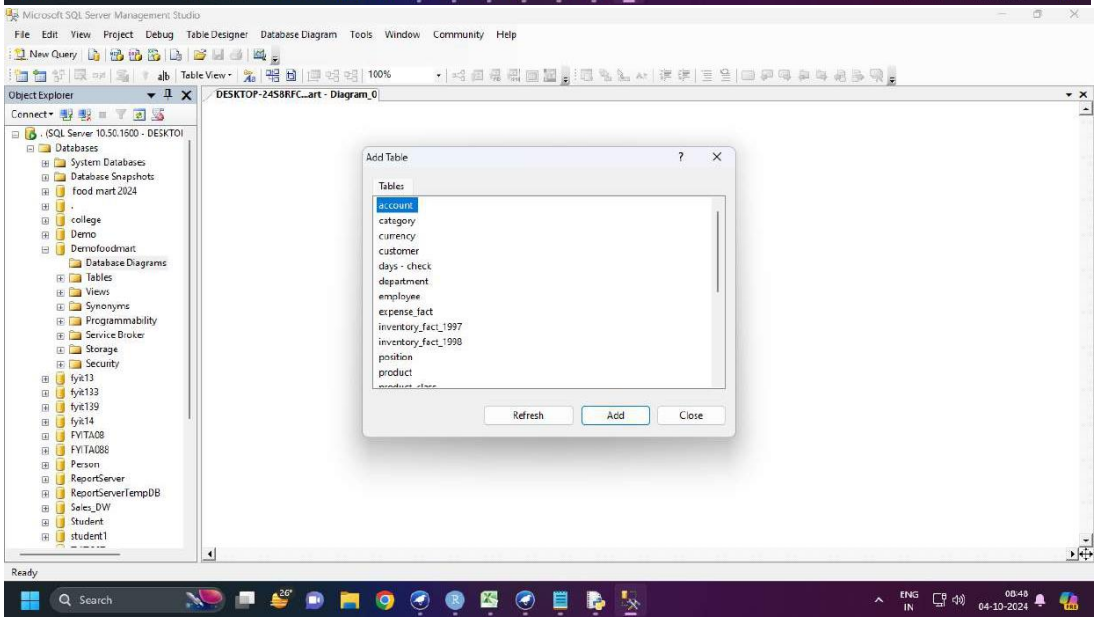

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
SQL Server Import and Export Wizard
Operation stopped...
Click the Back button to change the settings.
Error
11 Total
6 Success
1 Error
0 Warning
Details:
Action
Status
Message
Initializing Data Flow Task
Initializing Connections
Setting SQL Command
Setting Source Connection
Setting Destination Connection
Validating
Prepare for Execute
Pre-execute
Executing
Error
Copying to [dbo].[demo]
Post-execute
Stopped
Stop
Report
< Back
Close
Ready
Search
ENG IN
11:38
07-10-2024

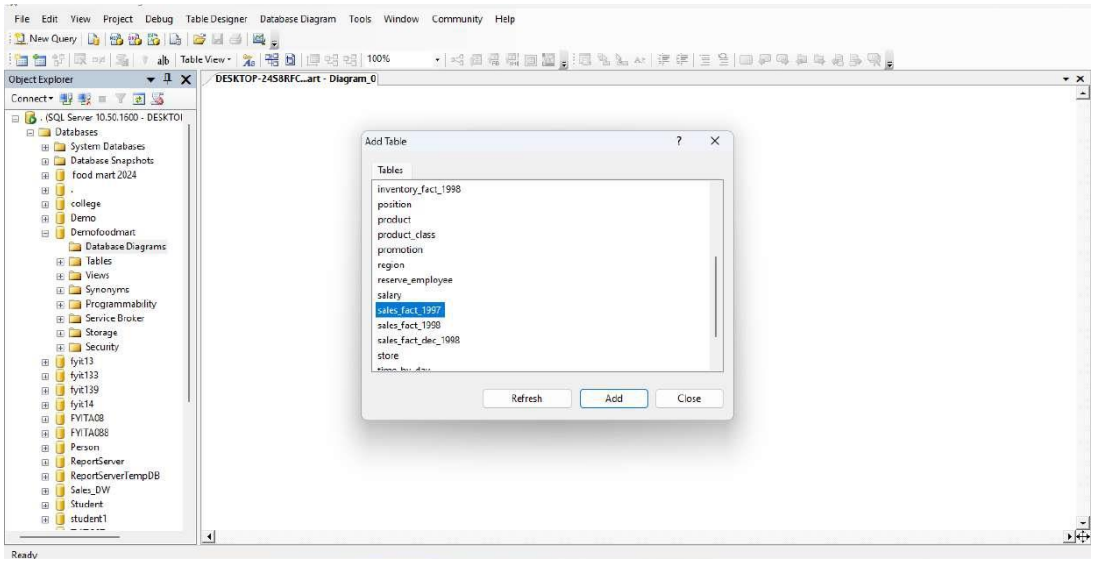
Practical No : 2

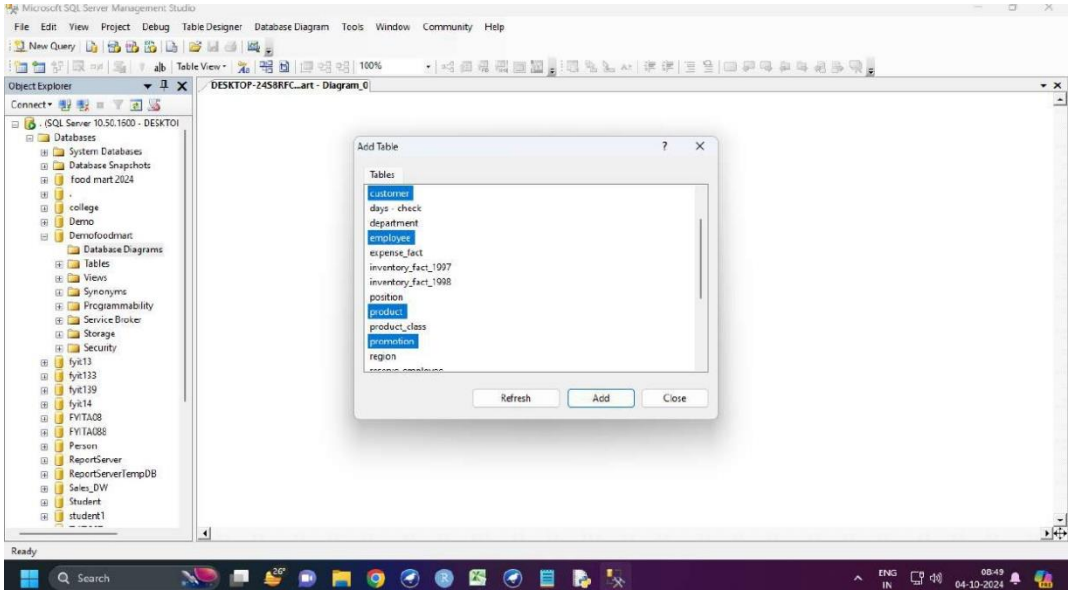
Aim : Create star schema.

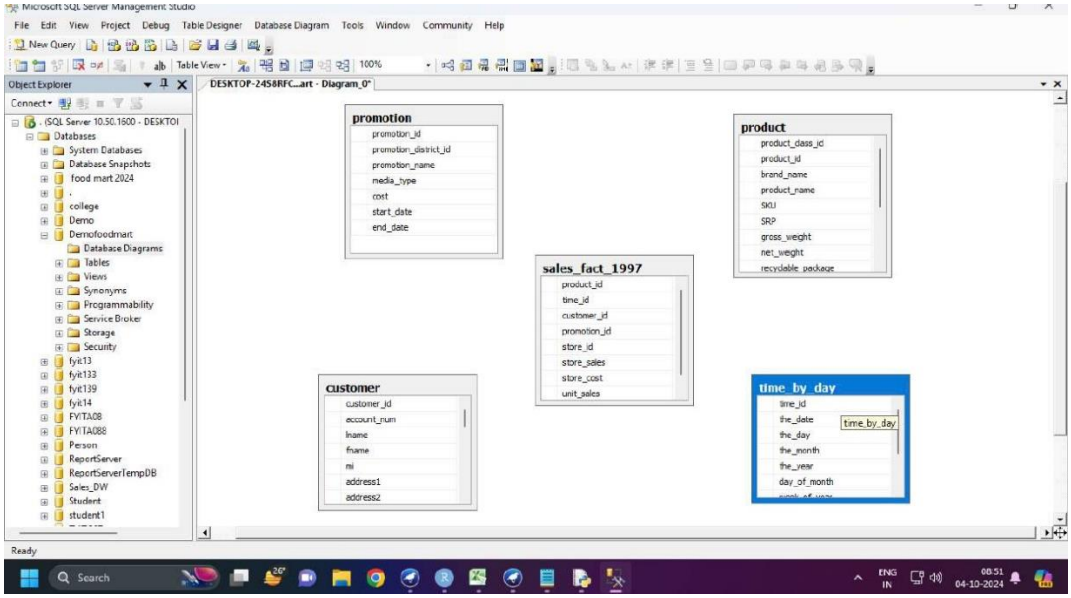


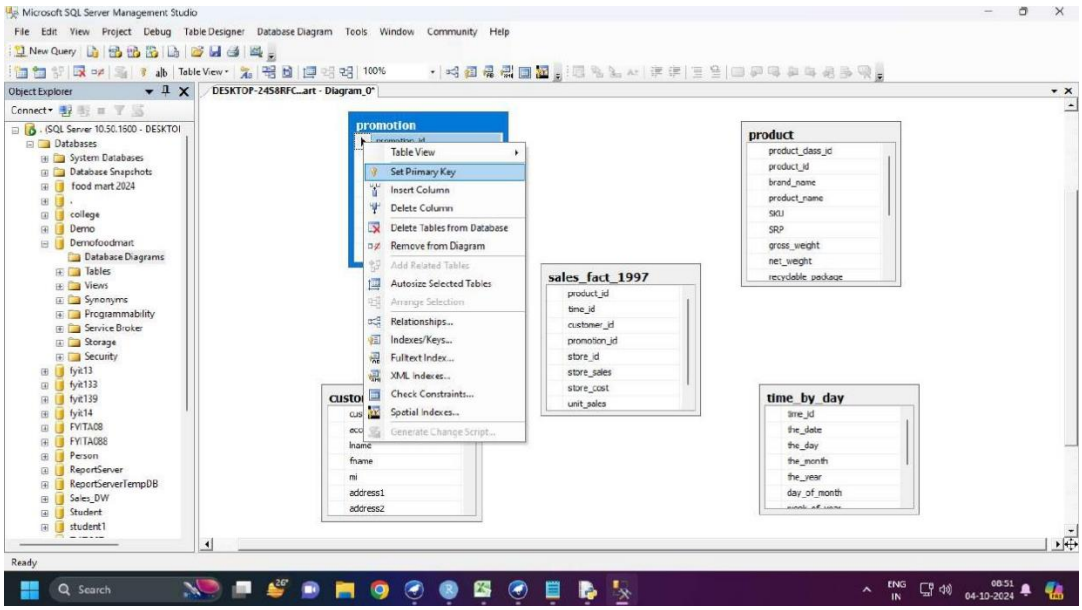

Microsoft SQL Server Management Studio
File Edit View Debug Tools Window Community Help
New Query
Object Explorer
Connect
Databases
System Databases
Database Snapshots
food mart 2024
college
Demo
Demofoodmart
New Database Diagram
Filter
Reports
Refresh
Security
Person
ReportServer
ReportServerTempDB
Sales_DW
Student
student1
Ready

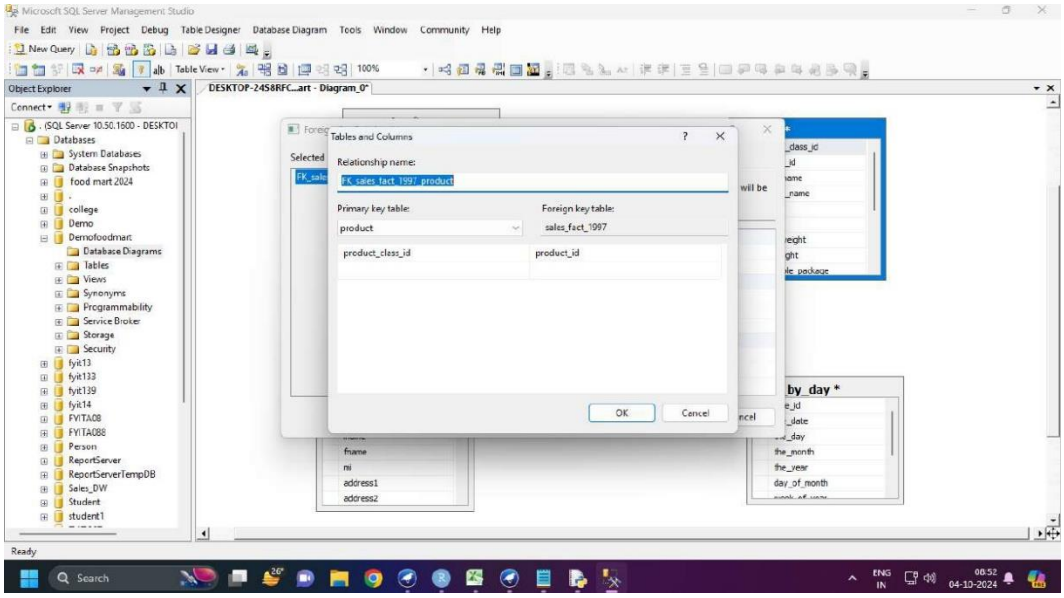

Microsoft SQL Server Management Studio
File Edit View Project Debug Table Designer Database Diagram Tools Window Community Help
New Query
Table View
100%
Object Explorer
Connect
DESKTOP-24S8RFC...art - Diagram_0
Add Table
Tables
account
category
currency
customer
days - check
department
employee
expense_fact
inventory_fact_1997
inventory_fact_1998
position
product
Refresh
Add
Close
Databases
Database Diagrams
Tables
Views
Synonyms
Programmability
Service Broker
Storage
Security
Ready

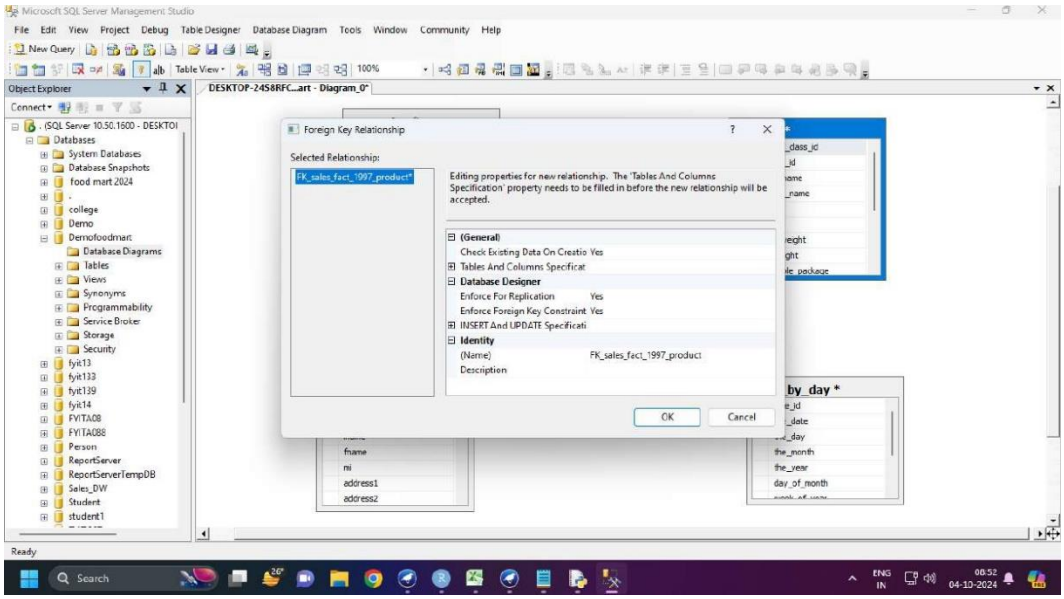

File Edit View Project Debug Table Designer Database Diagram Tools Window Community Help
New Query
Table View
100%
Object Explorer
Connect
DESKTOP-24S8RFC...art - Diagram_0
Add Table
Tables
inventory_fact_1998
position
product
product_class
promotion
region
reserve_employee
salary
sales_fact_1997
sales_fact_1998
sales_fact_dec_1998
store
Refresh
Add
Close
Ready

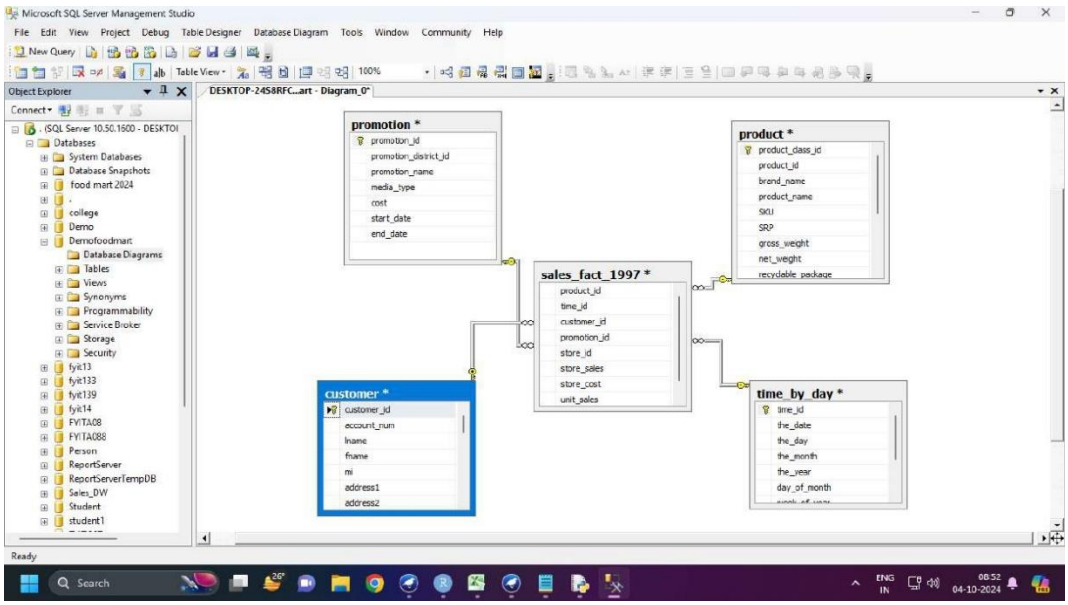

Add Table
Tables
customer
days - check
department
employee
expense_fact
inventory_fact_1997
inventory_fact_1998
position
product
product_class
promotion
region
Refresh
Add
Close


promotion
promotion_id
promotion_district_id
promotion_name
media_type
cost
start_date
end_date
product
product_class_id
product_id
brand_name
product_name
SKU
SRP
gross_weight
net_weight
recyclable_package
sales_fact_1997
product_id
time_id
customer_id
promotion_id
store_id
store_sales
store_cost
unit_sales
customer
customer_id
account_num
lname
fname
mi
address1
address2
time_by_day
time_id
the_date
the_day
the_month
the_year
day_of_month
time_by_day


promotion
Table View
Set Primary Key
Insert Column
Delete Column
Delete Tables from Database
Remove from Diagram
Add Related Tables
Autosize Selected Tables
Arrange Selection
Relationships...
Indexes/Keys...
Fulltext Index...
XML Indexes...
Check Constraints...
Spatial Indexes...
Generate Change Script...
product
sales_fact_1997
time_by_day


Microsoft SQL Server Management Studio
File Edit View Project Debug Table Designer Database Diagram Tools Window Community Help
Object Explorer
DESKTOP-24S8RFC...art - Diagram_0*
Tables and Columns
Relationship name:
FK_sales_fact_1997_product
Primary key table:
product
Foreign key table:
sales_fact_1997
product_class_id
product_id
OK
Cancel
Ready


Microsoft SQL Server Management Studio
File Edit View Project Debug Table Designer Database Diagram Tools Window Community Help
Object Explorer
DESKTOP-24S8RFC...art - Diagram_0*
Foreign Key Relationship
Selected Relationship:
FK_sales_fact_1997_product*
Editing properties for new relationship. The 'Tables And Columns Specification' property needs to be filled in before the new relationship will be accepted.
(General)
Database Designer
Identity
(Name) FK_sales_fact_1997_product
Description
OK
Cancel
Ready


Microsoft SQL Server Management Studio
File Edit View Project Debug Table Designer Database Diagram Tools Window Community Help
Object Explorer
DESKTOP-24S8RFC...art - Diagram_0*
promotion *
promotion_id
promotion_district_id
promotion_name
media_type
cost
start_date
end_date
product *
product_class_id
product_id
brand_name
product_name
SKU
SRP
gross_weight
net_weight
recyclable_package
sales_fact_1997 *
product_id
time_id
customer_id
promotion_id
store_id
store_sales
store_cost
unit_sales
customer *
customer_id
account_num
lname
fname
mi
address1
address2
time_by_day *
time_id
the_date
the_day
the_month
the_year
day_of_month
Ready

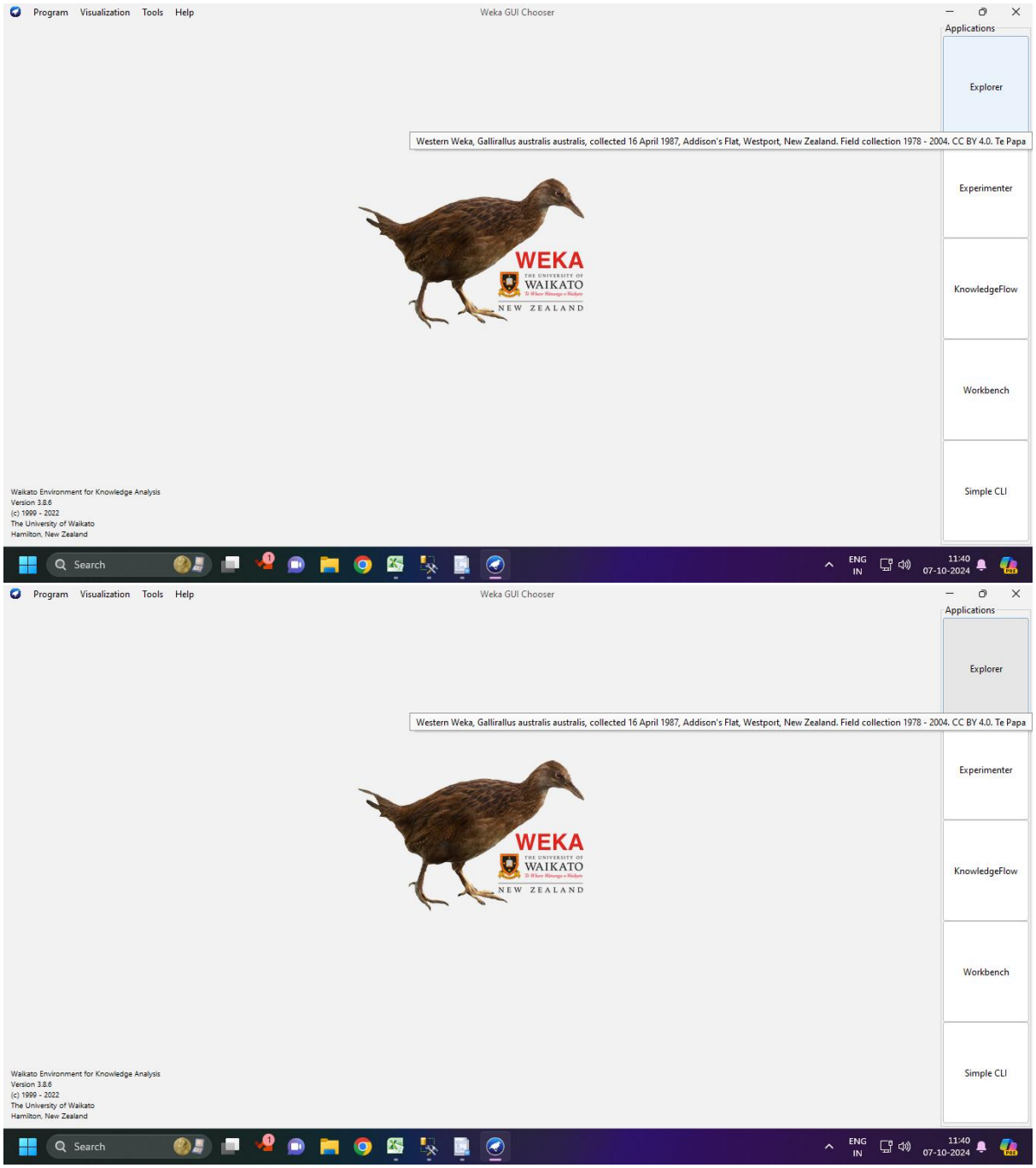
Pratical No : 3

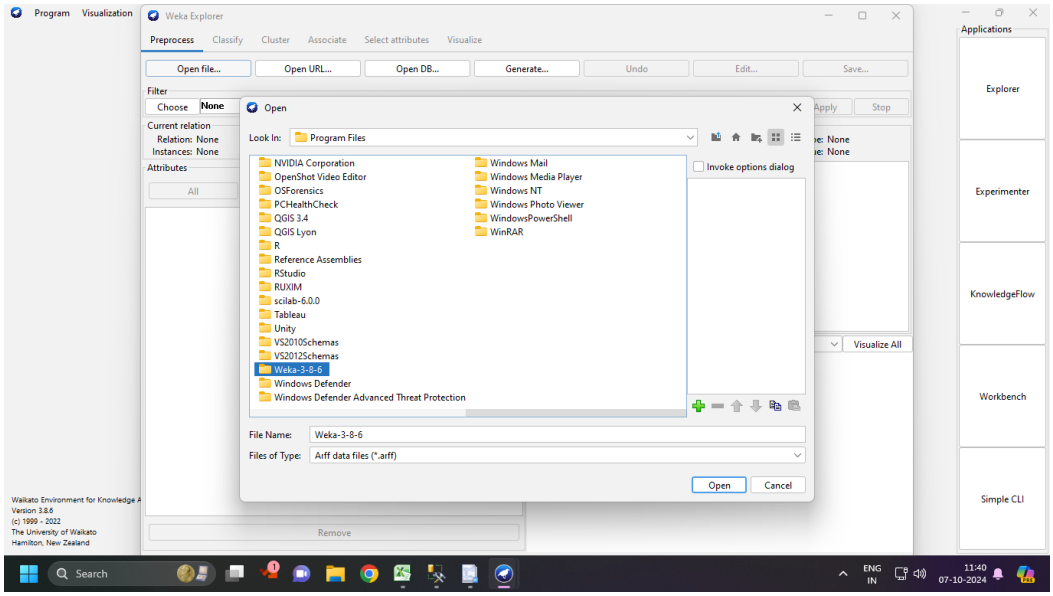
Aim : Extract local database and upload it on Azual

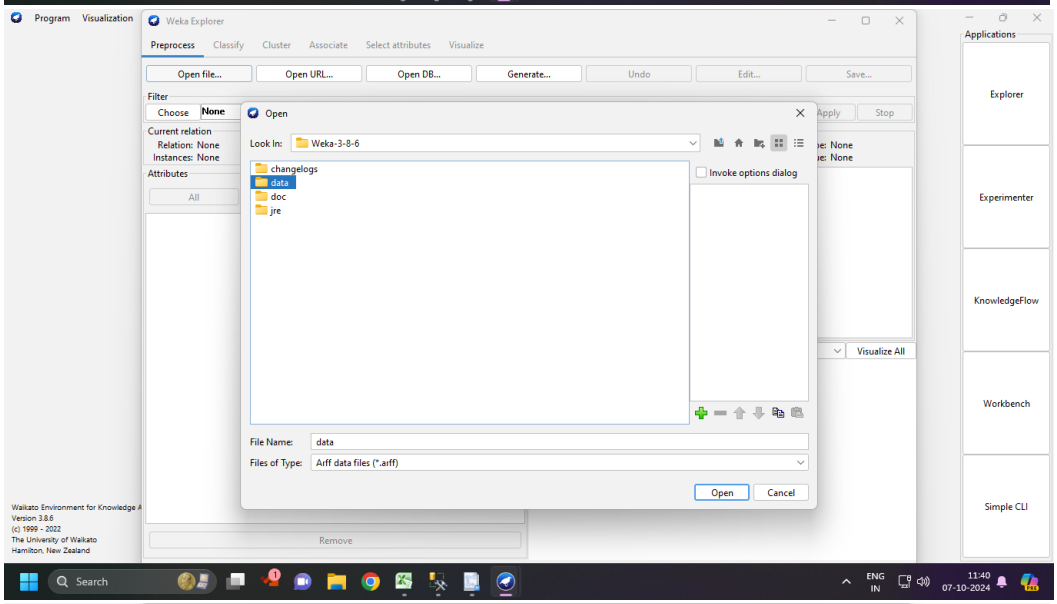
Practical No : 4

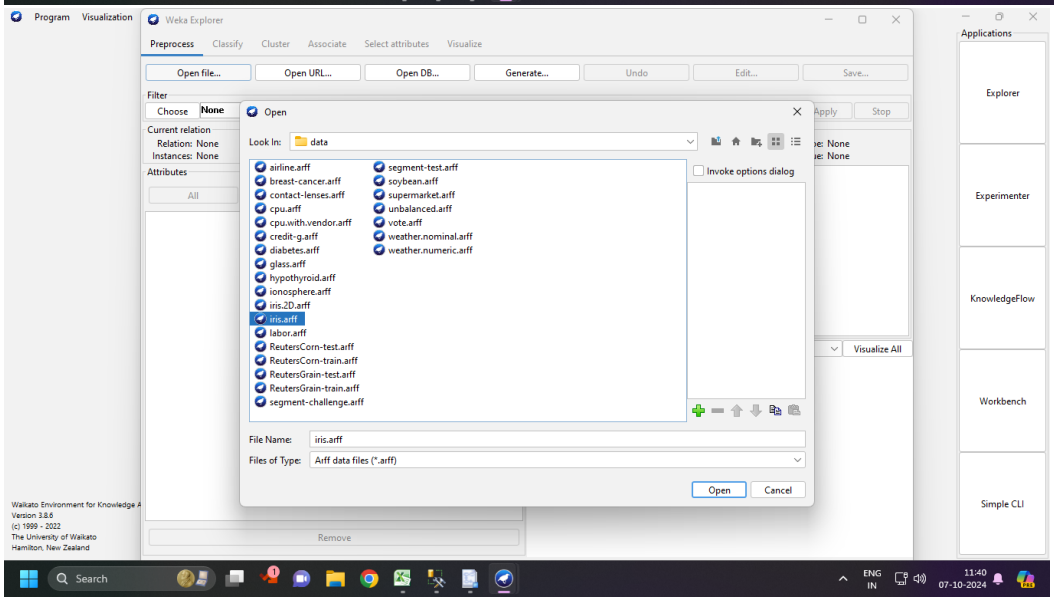
Working with data and data processing

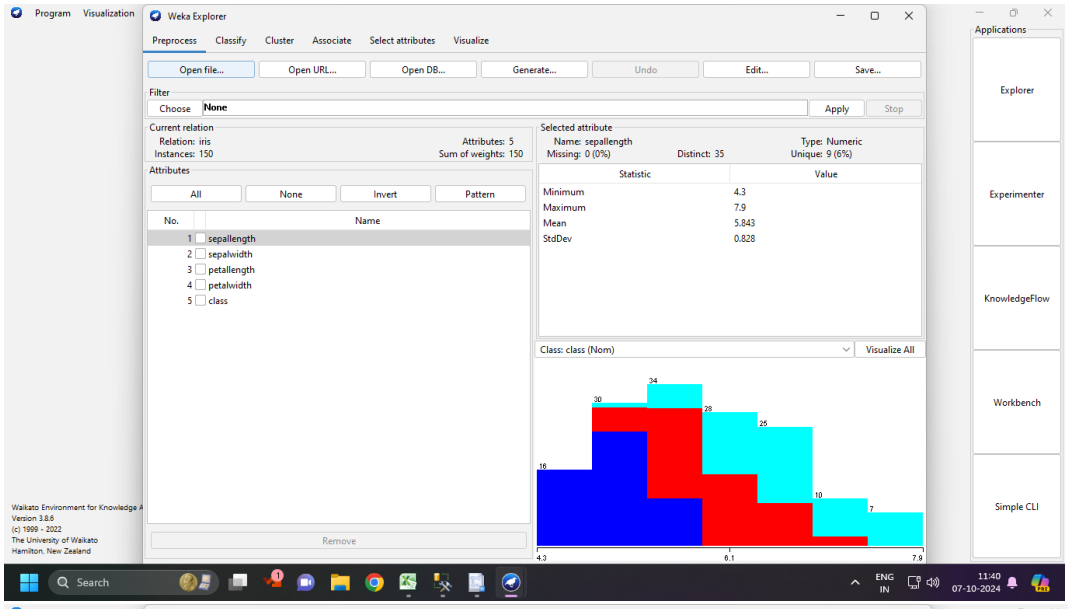
A) Aim : Demonstrate the use of arff file, taking input and display output

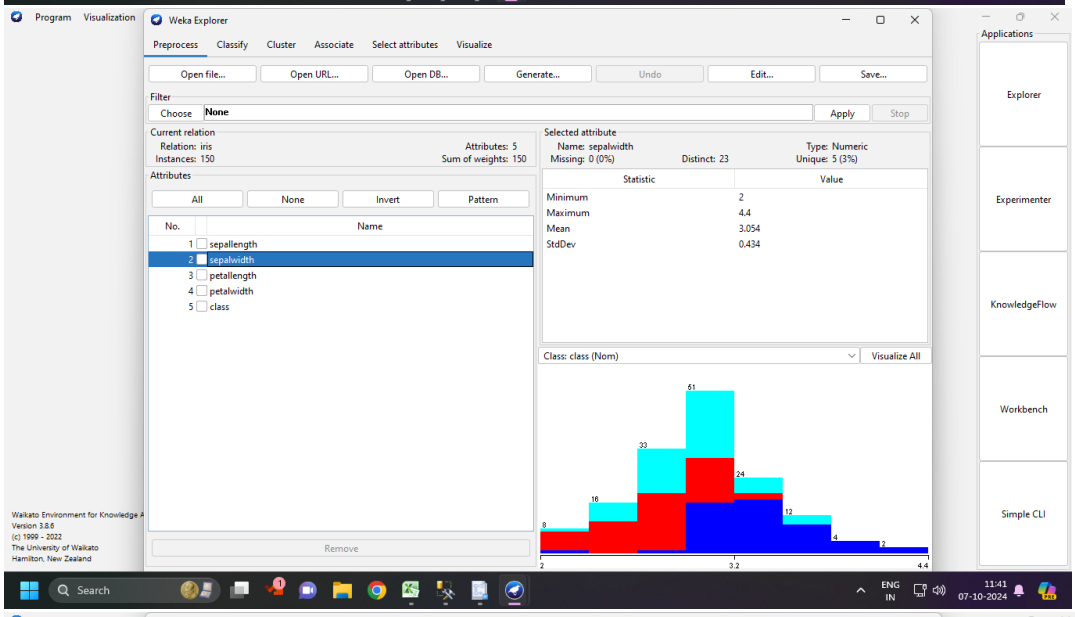


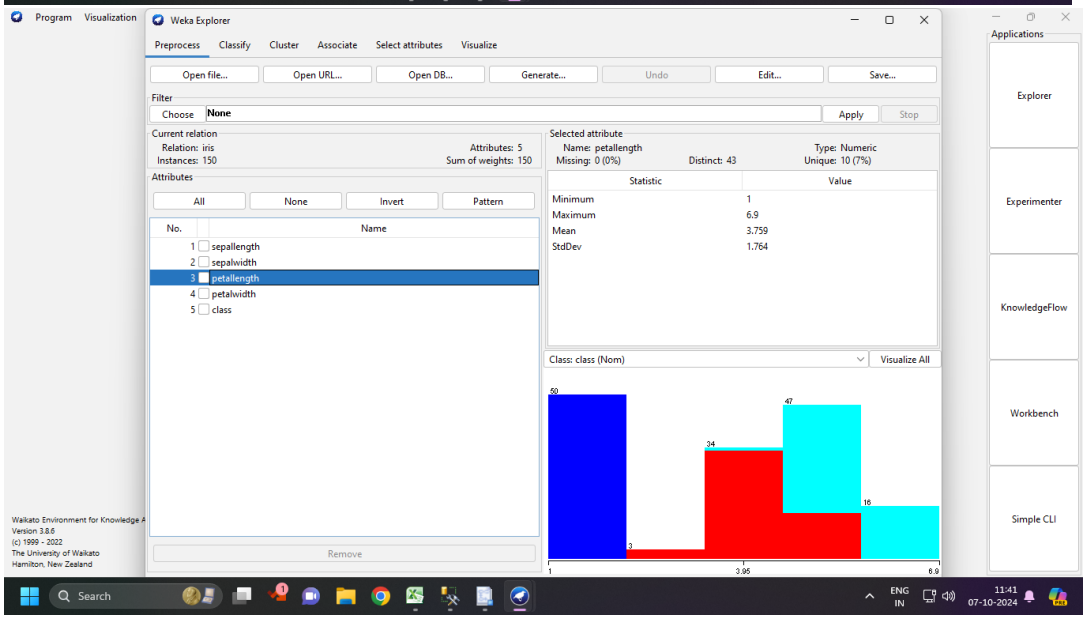

Weka Explorer
Open
Look In: Program Files
NVIDIA Corporation
OpenShot Video Editor
OSForensics
PCHealthCheck
QGIS 3.4
QGIS Lyon
R
Reference Assemblies
RStudio
RUXIM
scilab-6.0.0
Tableau
Unity
VS2010Schemas
VS2012Schemas
Weka-3-8-6
Windows Defender
Windows Defender Advanced Threat Protection
Windows Mail
Windows Media Player
Windows NT
Windows Photo Viewer
WindowsPowerShell
WinRAR
File Name: Weka-3-8-6
Files of Type: Arff data files (*.arff)
Open
Cancel
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI

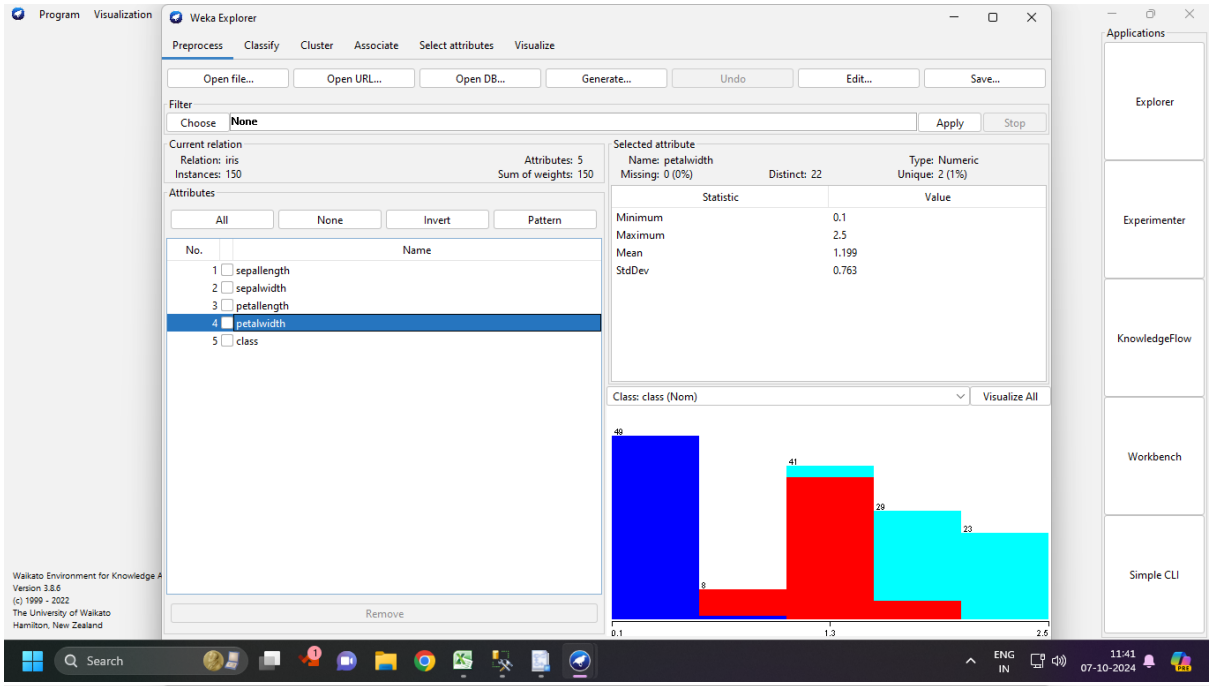

Weka Explorer
Open
Look In: Weka-3-8-6
changelogs
data
doc
jre
File Name: data
Files of Type: Arff data files (*.arff)
Open
Cancel
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI


Weka Explorer
Open
Look In: data
airline.arff
breast-cancer.arff
contact-lenses.arff
cpu.arff
cpu.with.vendor.arff
credit-g.arff
diabetes.arff
glass.arff
hypothyroid.arff
ionosphere.arff
iris.2D.arff
iris.arff
labor.arff
ReutersCorn-test.arff
ReutersCorn-train.arff
ReutersGrain-test.arff
ReutersGrain-train.arff
segment-challenge.arff
segment-test.arff
soybean.arff
supermarket.arff
unbalanced.arff
vote.arff
weather.nominal.arff
weather.numeric.arff
File Name: iris.arff
Files of Type: Arff data files (*.arff)
Open
Cancel
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI


Program Visualization
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: iris
Instances: 150
Attributes: 5
Sum of weights: 150
Attributes
All None Invert Pattern
No. Name
1 sepallength
2 sepalwidth
3 petallength
4 petalwidth
5 class
Remove
Selected attribute
Name: sepallength
Missing: 0 (0%)
Distinct: 35
Type: Numeric
Unique: 9 (6%)
Statistic Value
Minimum 4.3
Maximum 7.9
Mean 5.843
StdDev 0.828
Class: class (Nom)
Visualize All
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
11:40
07-10-2024


Program Visualization
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: iris
Instances: 150
Attributes: 5
Sum of weights: 150
Attributes
All None Invert Pattern
No. Name
1 sepallength
2 sepalwidth
3 petallength
4 petalwidth
5 class
Remove
Selected attribute
Name: sepalwidth
Missing: 0 (0%)
Distinct: 23
Type: Numeric
Unique: 5 (3%)
Statistic Value
Minimum 2
Maximum 4.4
Mean 3.054
StdDev 0.434
Class: class (Nom)
Visualize All
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
11:41
07-10-2024


Program Visualization
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: iris
Instances: 150
Attributes: 5
Sum of weights: 150
Attributes
All None Invert Pattern
No. Name
1 sepallength
2 sepalwidth
3 petallength
4 petalwidth
5 class
Remove
Selected attribute
Name: petallength
Missing: 0 (0%)
Distinct: 43
Type: Numeric
Unique: 10 (7%)
Statistic Value
Minimum 1
Maximum 6.9
Mean 3.759
StdDev 1.764
Class: class (Nom)
Visualize All
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
11:41
07-10-2024


Program Visualization
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: iris
Instances: 150
Attributes: 5
Sum of weights: 150
Attributes
All None Invert Pattern
No. Name
1 sepallength
2 sepalwidth
3 petallength
4 petalwidth
5 class
Remove
Selected attribute
Name: petalwidth
Missing: 0 (0%)
Distinct: 22
Type: Numeric
Unique: 2 (1%)
Statistic Value
Minimum 0.1
Maximum 2.5
Mean 1.199
StdDev 0.763
Class: class (Nom)
Visualize All
49
41
29
23
8
0.1
1.3
2.5
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
Version 3.8.6
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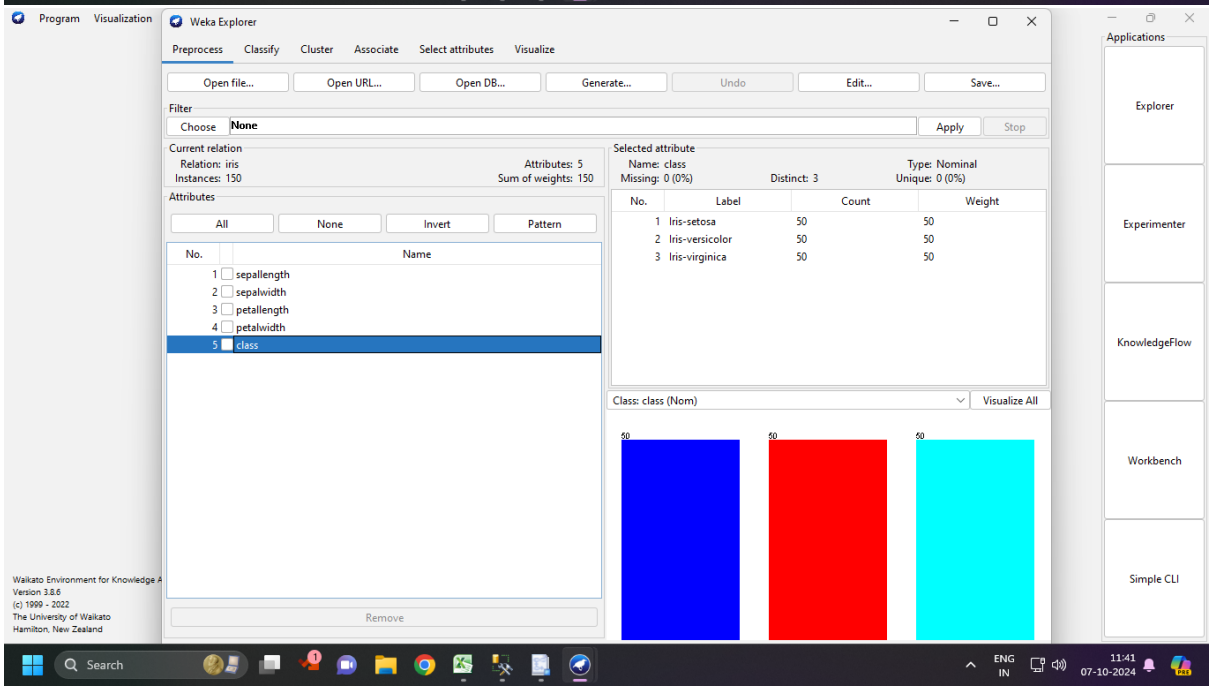
Search
ENG
IN
11:41
07-10-2024


Program Visualization
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: iris
Instances: 150
Attributes: 5
Sum of weights: 150
Attributes
All None Invert Pattern
No. Name
1 sepallength
2 sepalwidth
3 petallength
4 petalwidth
5 class
Remove
Selected attribute
Name: class
Missing: 0 (0%)
Distinct: 3
Type: Nominal
Unique: 0 (0%)
No. Label Count Weight
1 Iris-setosa 50 50
2 Iris-versicolor 50 50
3 Iris-virginica 50 50
Class: class (Nom)
Visualize All
50
50
50
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
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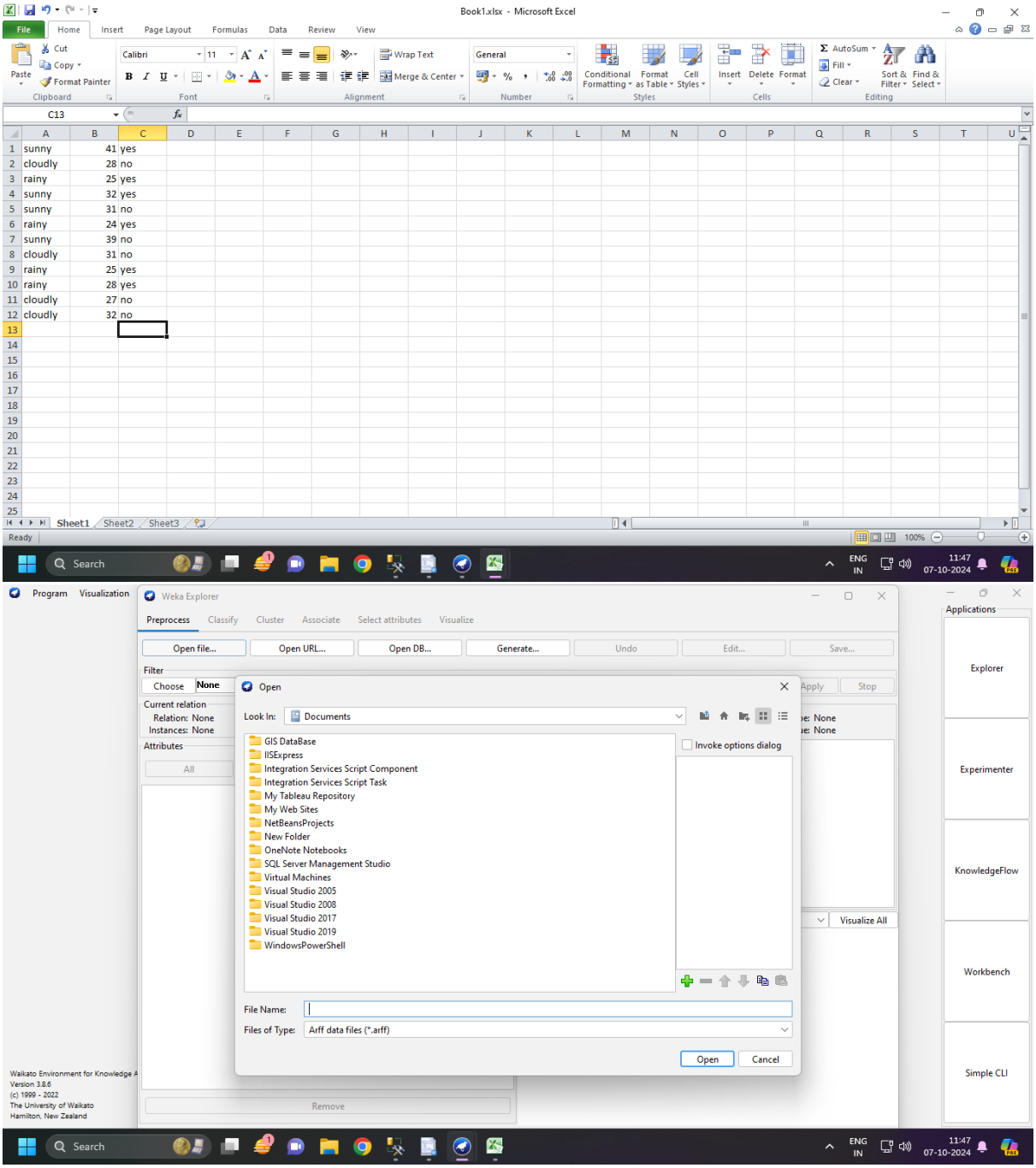
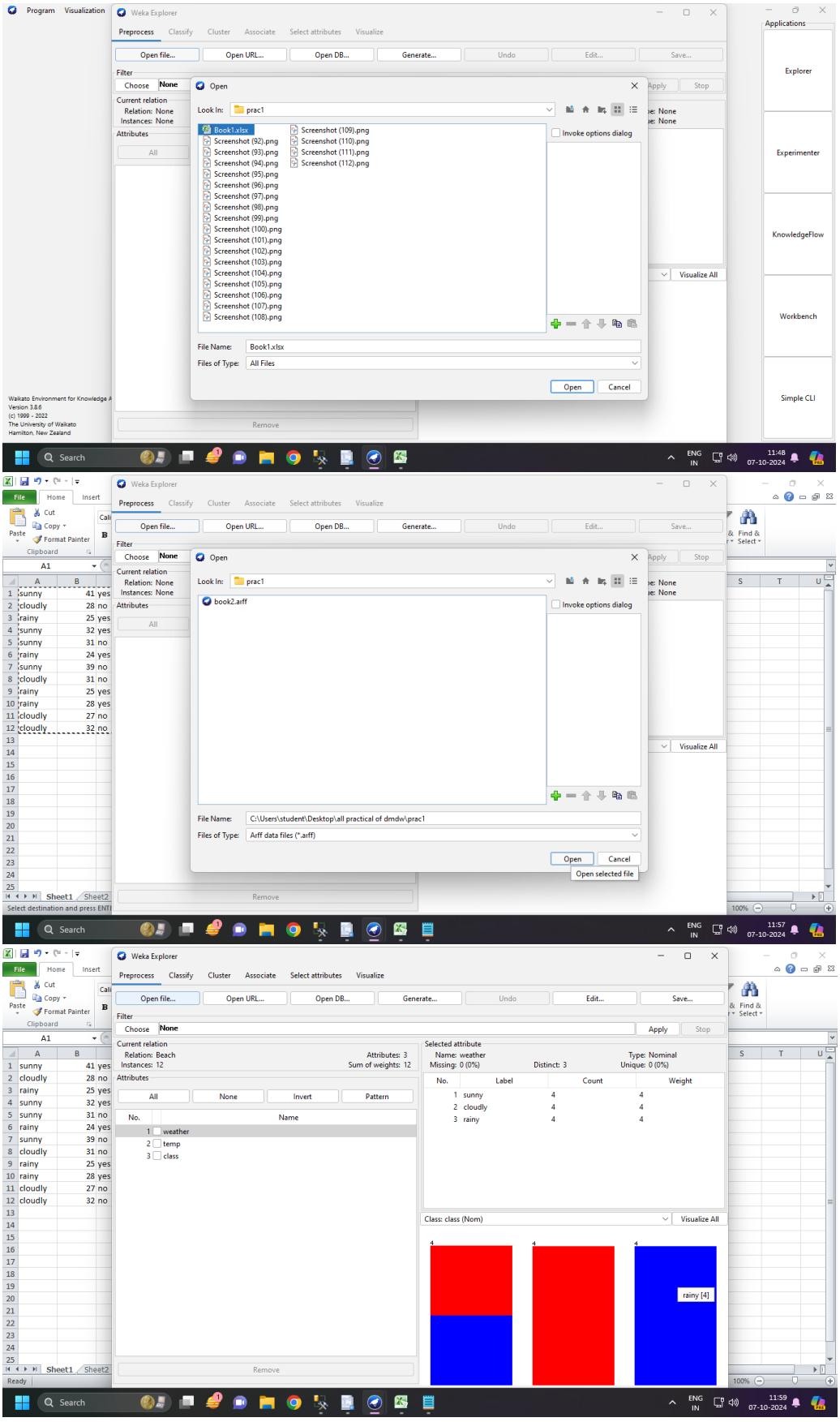
Search
ENG
IN
11:41
07-10-2024

B) Aim : Create your own excel file, convert the excel file to .csv format and prepare it as arff files.




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: None
Instances: None
Attributes
All
Remove
Open
Look In: prac1
Book1.xlsx
Screenshot (92).png
Screenshot (93).png
Screenshot (94).png
Screenshot (95).png
Screenshot (96).png
Screenshot (97).png
Screenshot (98).png
Screenshot (99).png
Screenshot (100).png
Screenshot (101).png
Screenshot (102).png
Screenshot (103).png
Screenshot (104).png
Screenshot (105).png
Screenshot (106).png
Screenshot (107).png
Screenshot (108).png
Screenshot (109).png
Screenshot (110).png
Screenshot (111).png
Screenshot (112).png
Invoke options dialog
File Name: Book1.xlsx
Files of Type: All Files
Open
Cancel
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Visualize All
Waikato Environment for Knowledge A
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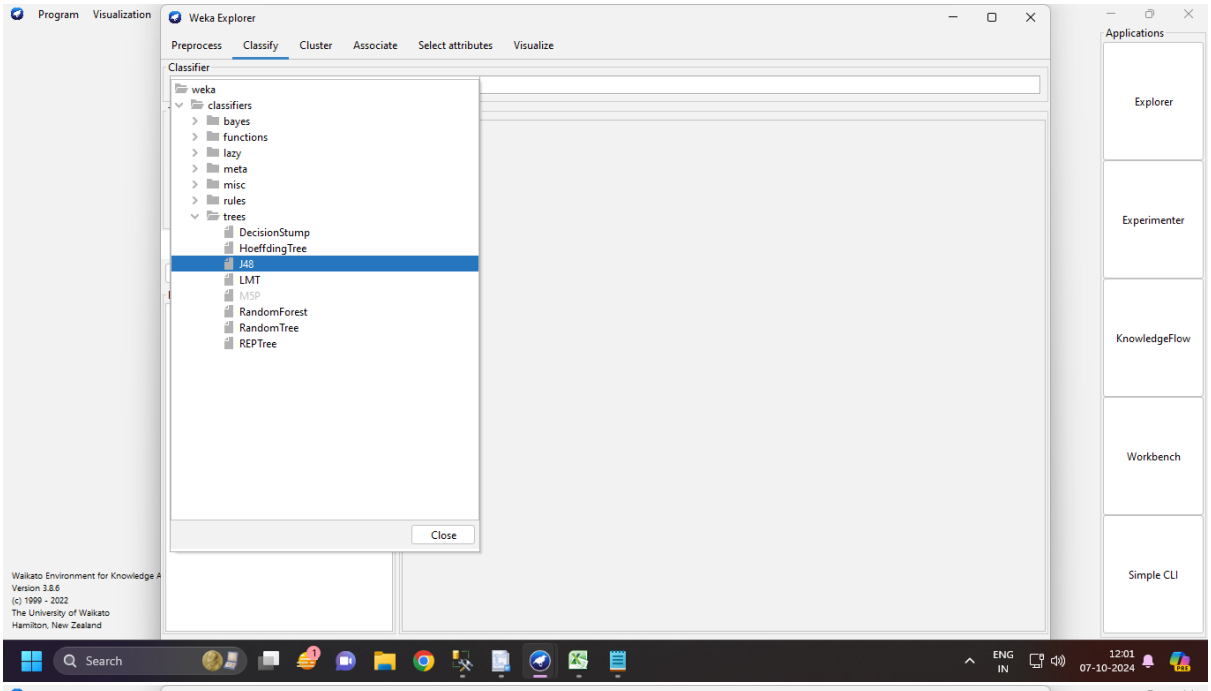
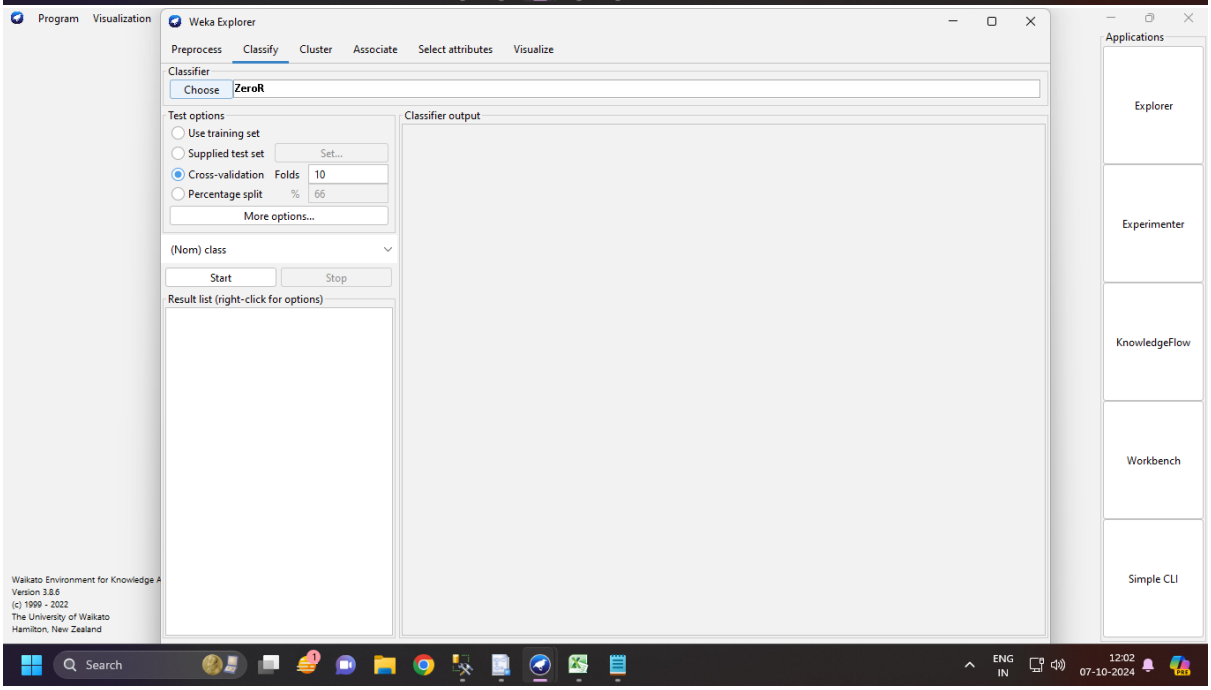
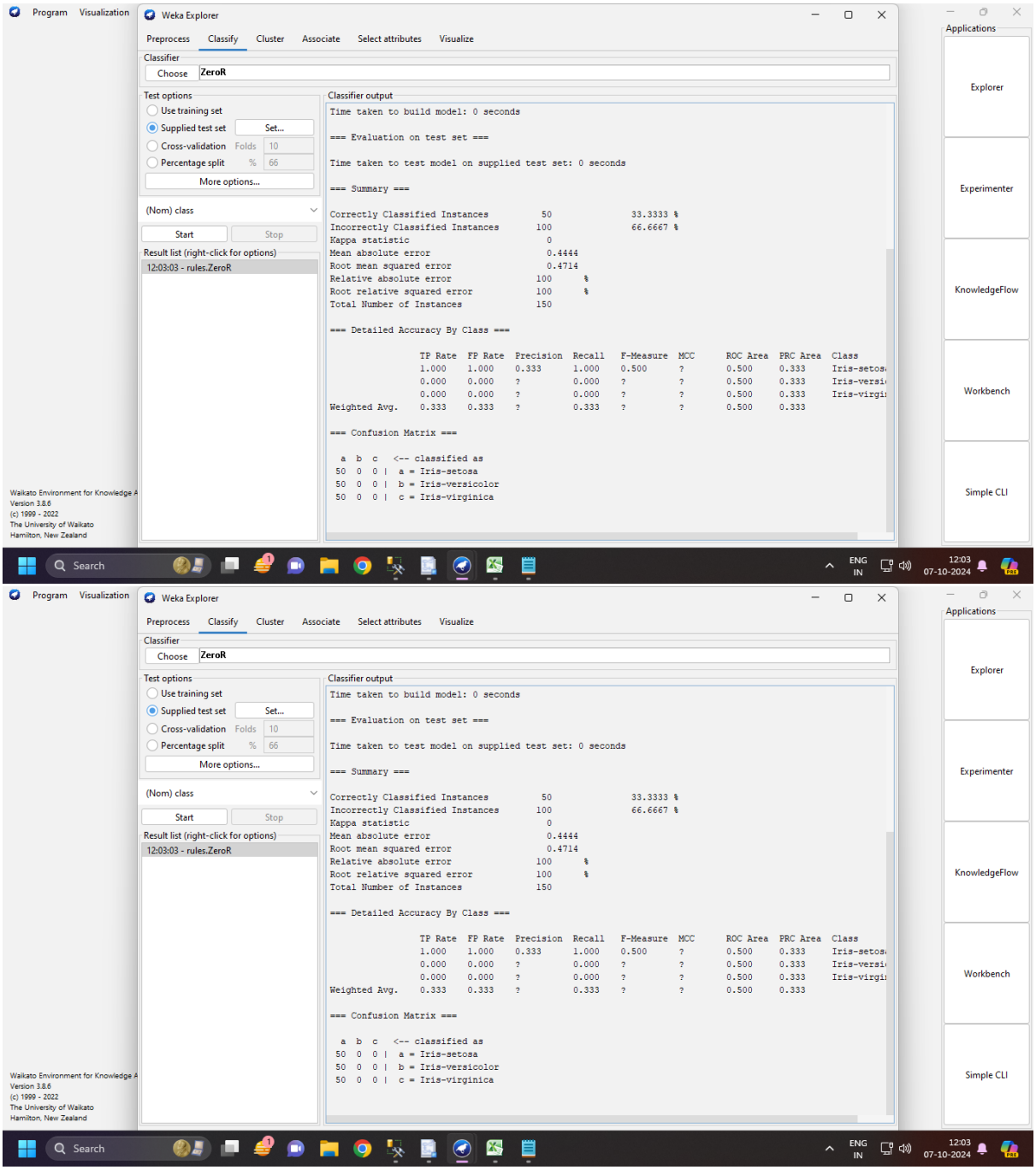
Search
ENG
IN
11:48
07-10-2024
book2.arff
File Name: C:\Users\student\Desktop\all practical of dmdw\prac1
Files of Type: Arff data files (*.arff)
Open selected file
sunny 41 yes
cloudly 28 no
rainy 25 yes
sunny 32 yes
sunny 31 no
rainy 24 yes
sunny 39 no
cloudly 31 no
rainy 25 yes
rainy 28 yes
cloudly 27 no
cloudly 32 no
Sheet1
Sheet2
11:57
07-10-2024
Relation: Beach
Instances: 12
Attributes: 3
Sum of weights: 12
Invert
Pattern
No.
Name
1 weather
2 temp
3 class
Selected attribute
Name: weather
Missing: 0 (0%)
Distinct: 3
Type: Nominal
Unique: 0 (0%)
Label
Count
Weight
1 sunny 4 4
2 cloudly 4 4
3 rainy 4 4
Class: class (Nom)
rainy [4]
Ready
11:59
07-10-2024

C) Perform Classification on dataset







Program Visualization
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...
(Nom) class
Start Stop
Result list (right-click for options)
12:03:03 - rules.ZeroR
Classifier output
Time taken to build model: 0 seconds
=== Evaluation on test set ===
Time taken to test model on supplied test set: 0 seconds
=== Summary ===
Correctly Classified Instances 50 33.3333 %
Incorrectly Classified Instances 100 66.6667 %
Kappa statistic 0
Mean absolute error 0.4444
Root mean squared error 0.4714
Relative absolute error 100 %
Root relative squared error 100 %
Total Number of Instances 150
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class
1.000 1.000 0.333 1.000 0.500 ? 0.500 0.333 Iris-setosa
0.000 0.000 ? 0.000 ? ? 0.500 0.333 Iris-versicolor
0.000 0.000 ? 0.000 ? ? 0.500 0.333 Iris-virginica
Weighted Avg. 0.333 0.333 ? 0.333 ? ? 0.500 0.333
=== Confusion Matrix ===
a b c <-- classified as
50 0 0 | a = Iris-setosa
50 0 0 | b = Iris-versicolor
50 0 0 | c = Iris-virginica
Waikato Environment for Knowledge Analysis
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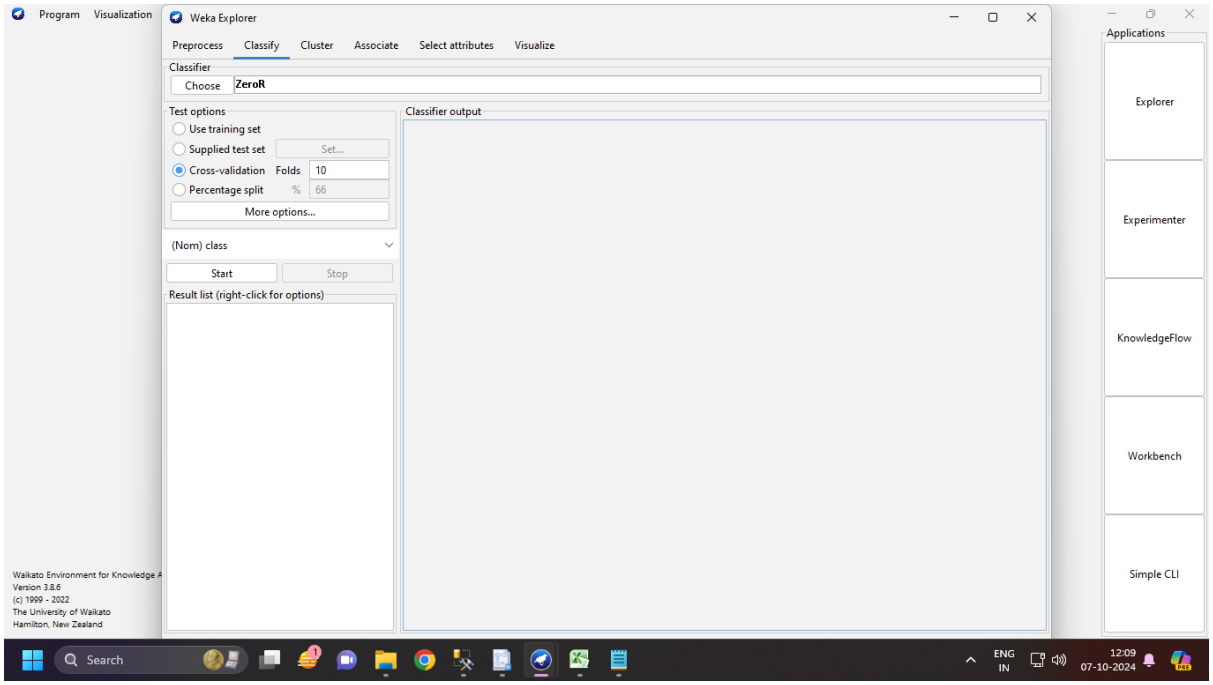
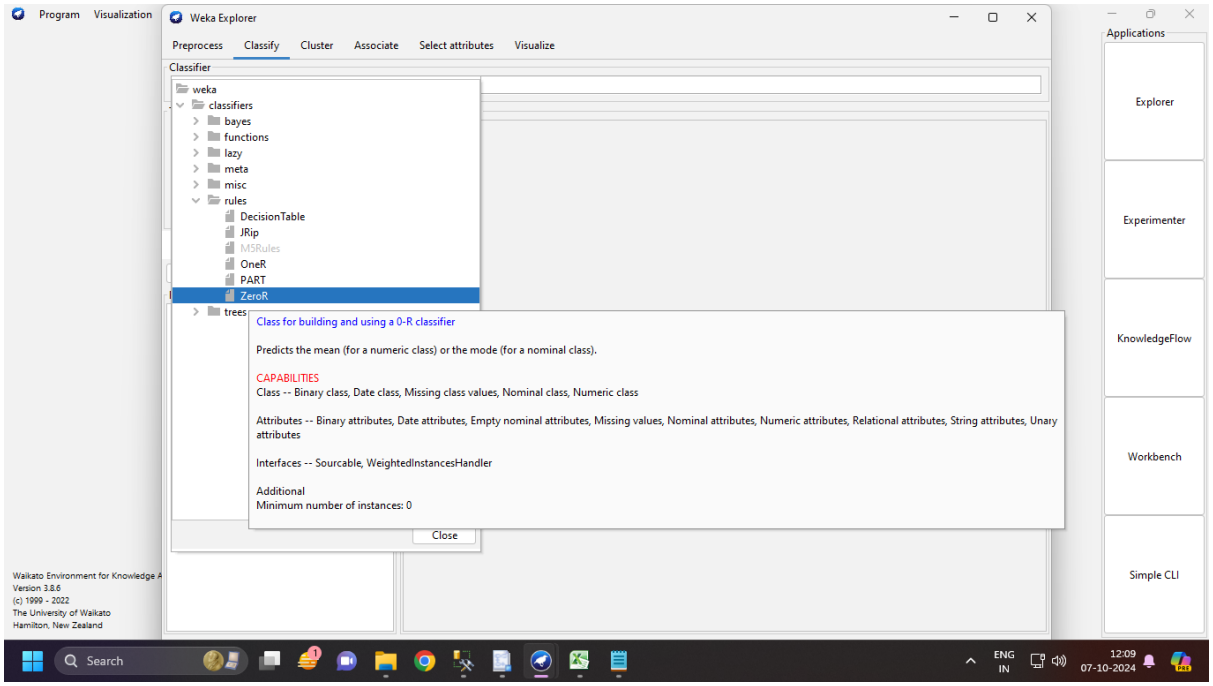
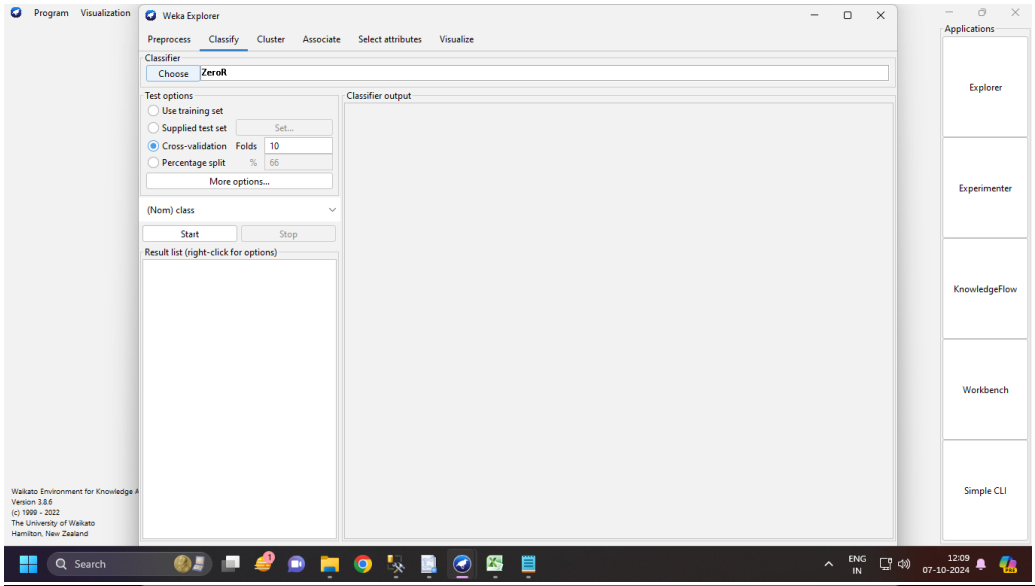
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
12:03 07-10-2024

Practical No : 5

A) Aim : Building a decision tree classifier in weka using iris dataset






Program Visualization
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...
Classifier output
(Nom) class
Start Stop
Result list (right-click for options)
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
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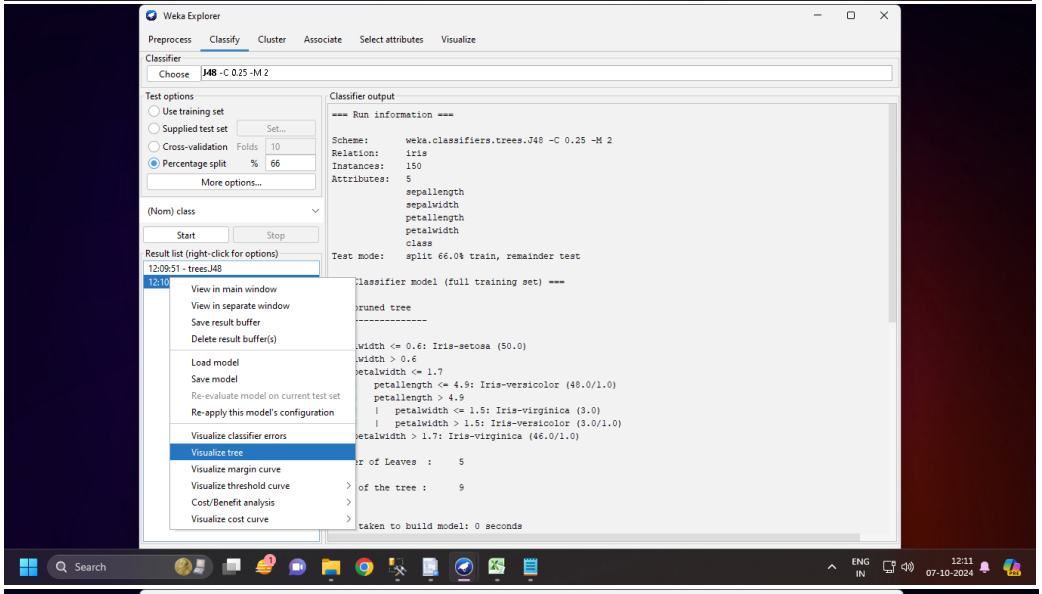
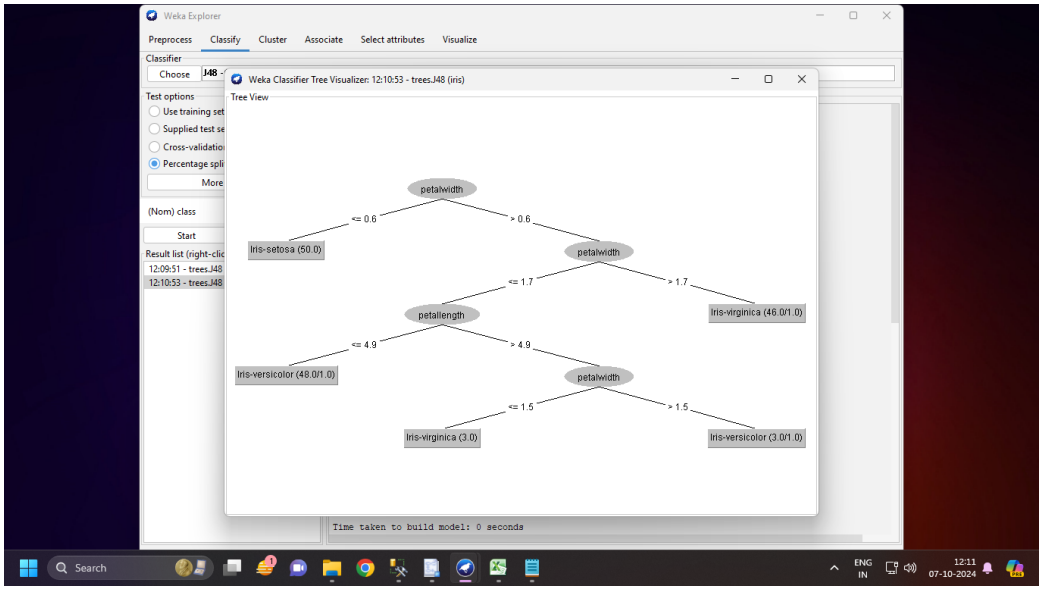
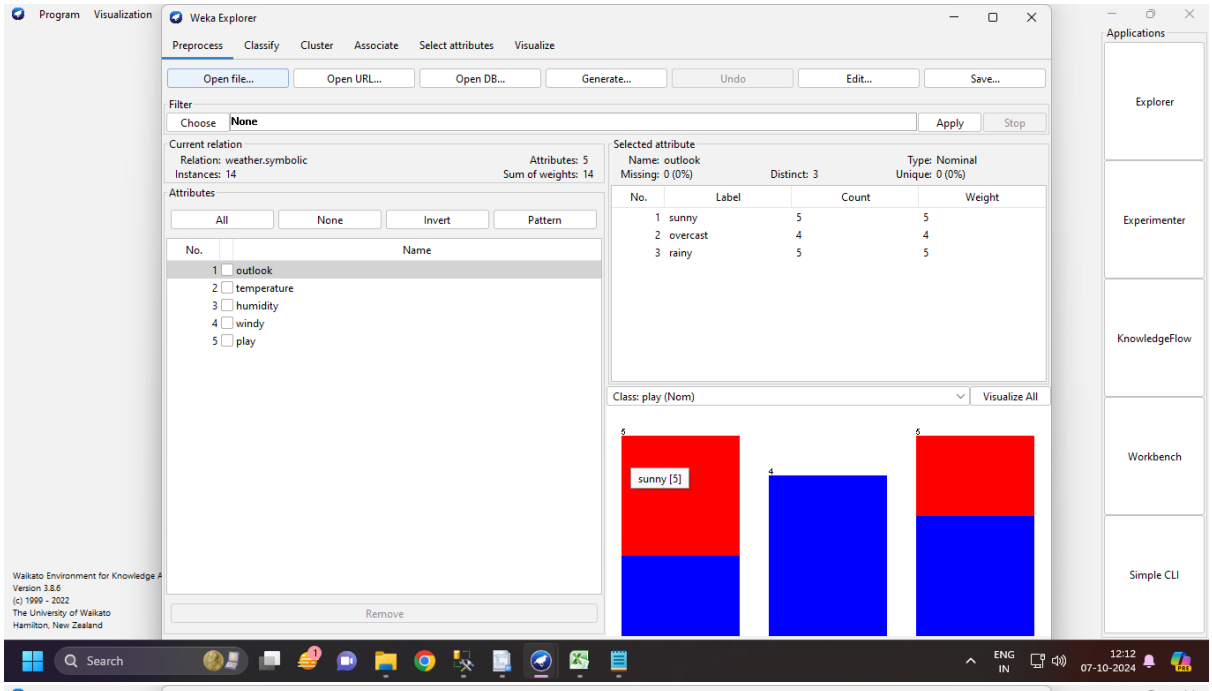
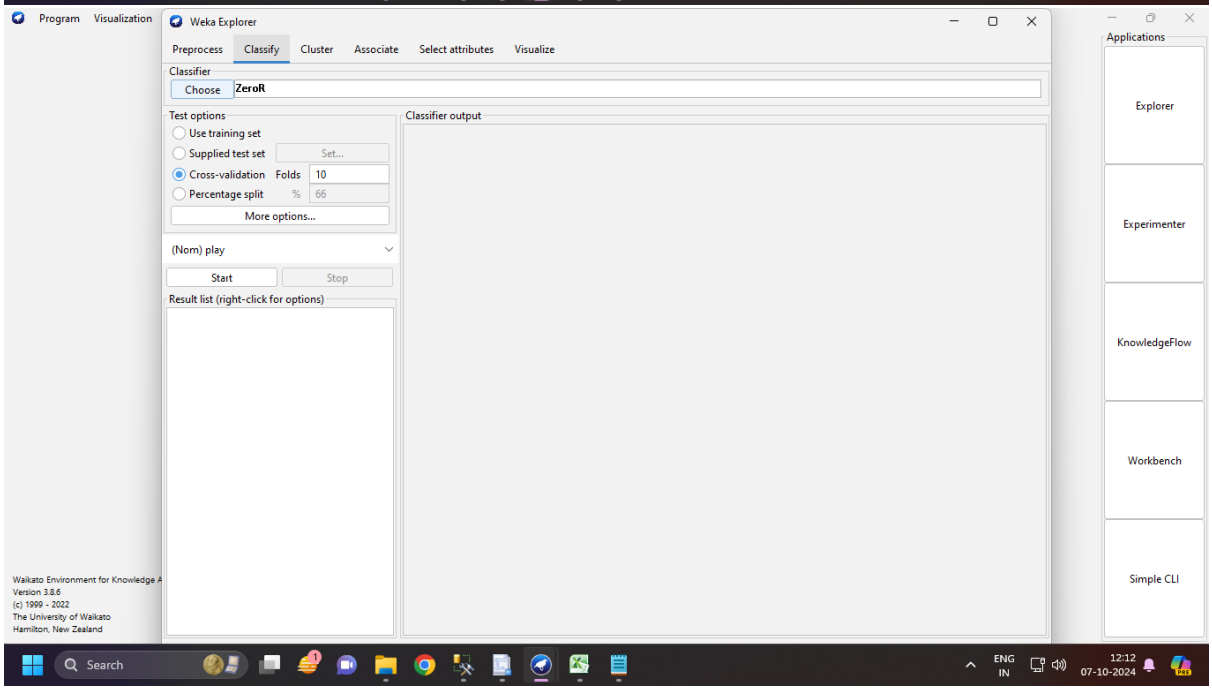
Hamilton, New Zealand
Search
ENG IN
12:09
07-10-2024

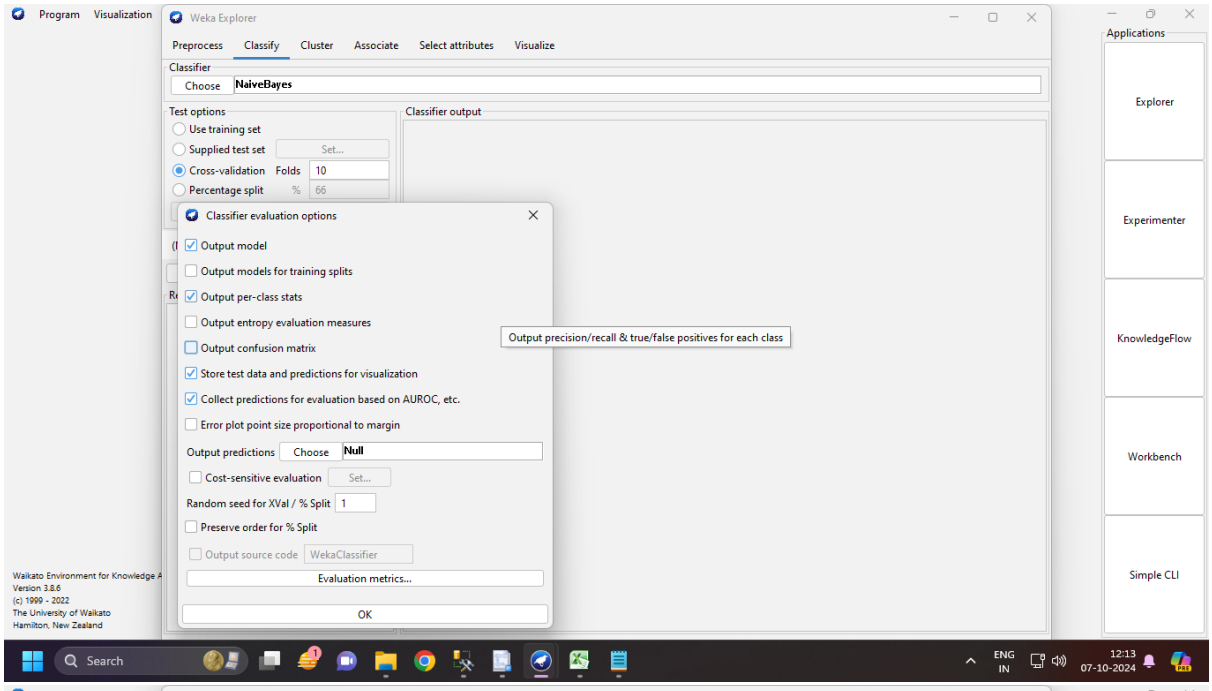

Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
More options...
Classifier output
(Nom) class
Start Stop
Result list (right-click for options)
12:09:51 - trees.J48
View in main window
View in separate window
Save result buffer
Delete result buffer(s)
Load model
Save model
Re-evaluate model on current test set
Re-apply this model's configuration
Visualize classifier errors
Visualize tree
Visualize margin curve
Visualize threshold curve
Cost/Benefit analysis
Visualize cost curve
=== Run information ===
Scheme: weka.classifiers.trees.J48 -C 0.25 -M 2
Relation: iris
Instances: 150
Attributes: 5
sepallength
sepalwidth
petallength
petalwidth
class
Test mode: split 66.0% train, remainder test
Search
ENG IN
12:11
07-10-2024

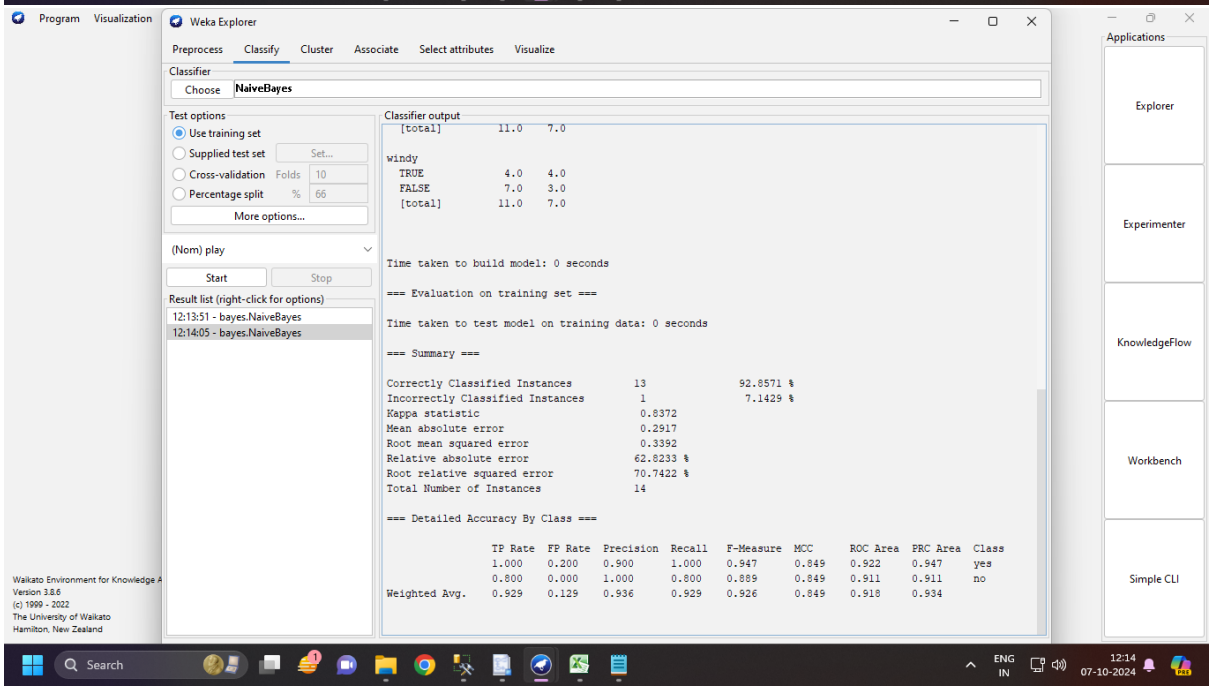

Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Weka Classifier Tree Visualizer: 12:10:53 - trees.J48 (iris)
Tree View
petalwidth
<= 0.6
> 0.6
Iris-setosa (50.0)
petalwidth
<= 1.7
> 1.7
petallength
Iris-virginica (46.0/1.0)
<= 4.9
> 4.9
Iris-versicolor (48.0/1.0)
petalwidth
<= 1.5
> 1.5
Iris-virginica (3.0)
Iris-versicolor (3.0/1.0)
Time taken to build model: 0 seconds
Search
ENG IN
12:11
07-10-2024

B) Aim : Apply Navi Bayes on dataset for classification use iris dataset






Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
Classifier output
Classifier evaluation options
Output model
Output models for training splits
Output per-class stats
Output entropy evaluation measures
Output confusion matrix
Output precision/recall & true/false positives for each class
Store test data and predictions for visualization
Collect predictions for evaluation based on AUROC, etc.
Error plot point size proportional to margin
Output predictions Choose Null
Cost-sensitive evaluation Set...
Random seed for XVal / % Split 1
Preserve order for % Split
Output source code WekaClassifier
Evaluation metrics...
OK
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
Version 3.8.6
(c) 1999 - 2022
The University of Waikato
Hamilton, New Zealand
Search
ENG IN
12:13
07-10-2024


Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
More options...
(Nom) play
Start Stop
Result list (right-click for options)
12:13:51 - bayes.NaiveBayes
12:14:05 - bayes.NaiveBayes
Classifier output
[total] 11.0 7.0
windy
TRUE 4.0 4.0
FALSE 7.0 3.0
[total] 11.0 7.0
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 13 92.8571 %
Incorrectly Classified Instances 1 7.1429 %
Kappa statistic 0.8372
Mean absolute error 0.2917
Root mean squared error 0.3392
Relative absolute error 62.8233 %
Root relative squared error 70.7422 %
Total Number of Instances 14
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class
1.000 0.200 0.900 1.000 0.947 0.849 0.922 0.947 yes
0.800 0.000 1.000 0.800 0.889 0.849 0.911 0.911 no
Weighted Avg. 0.929 0.129 0.936 0.929 0.926 0.849 0.918 0.934
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
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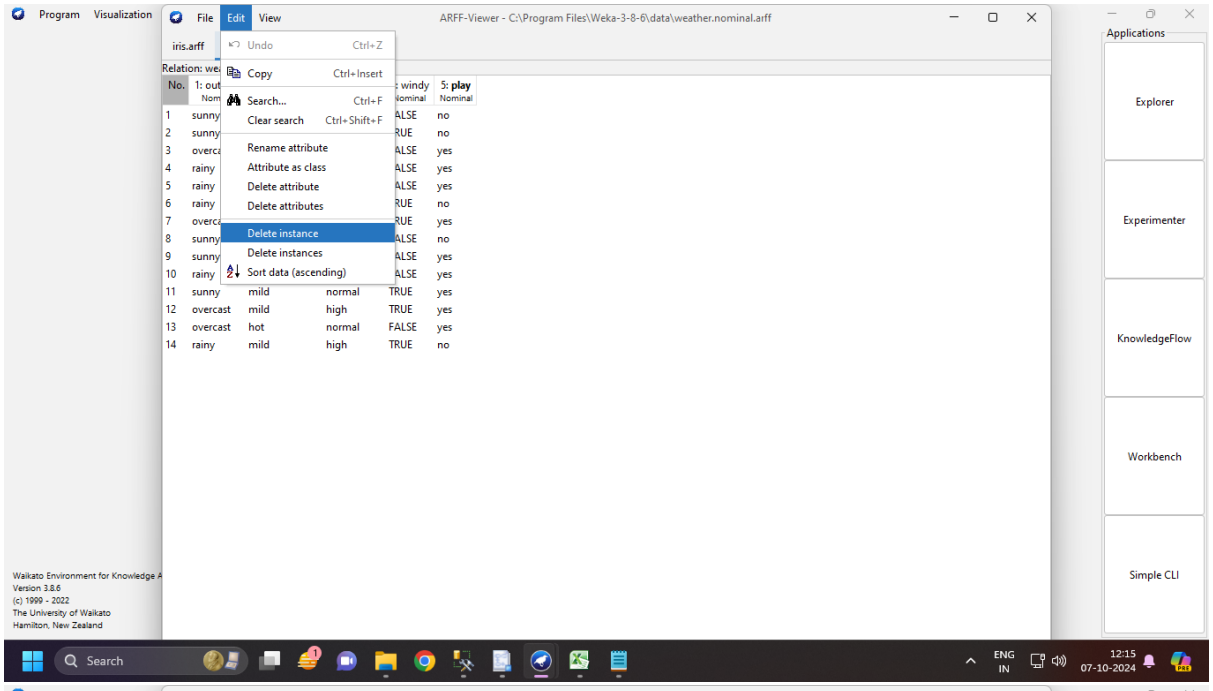
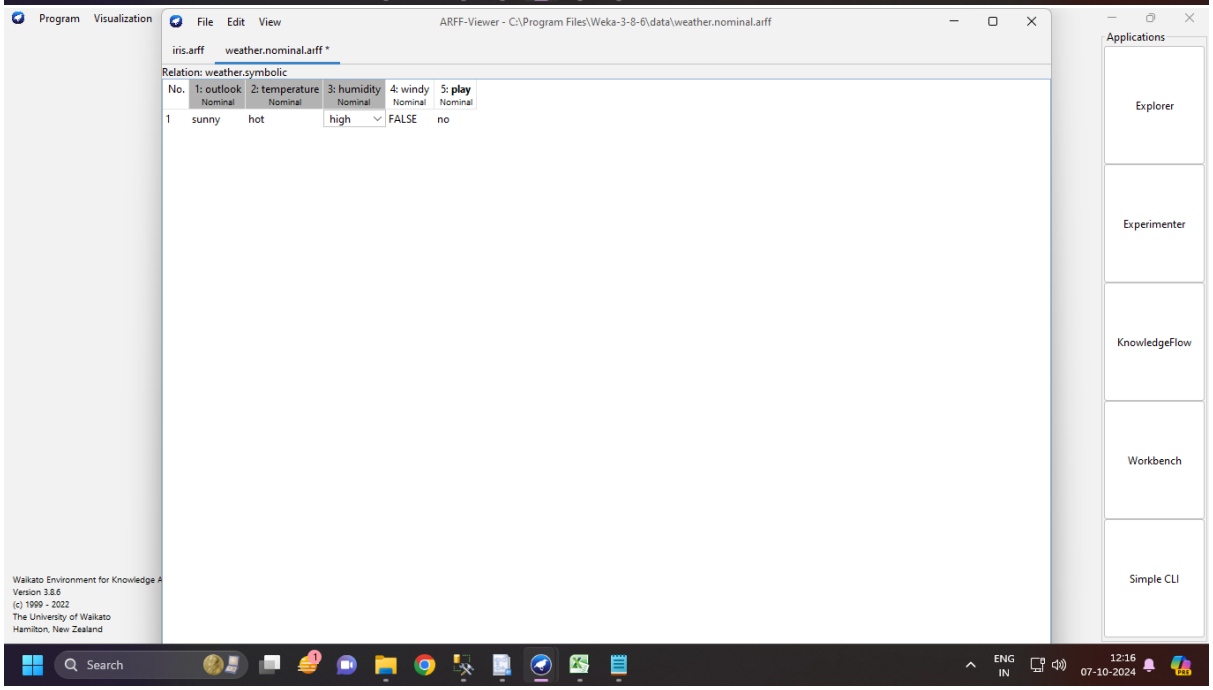
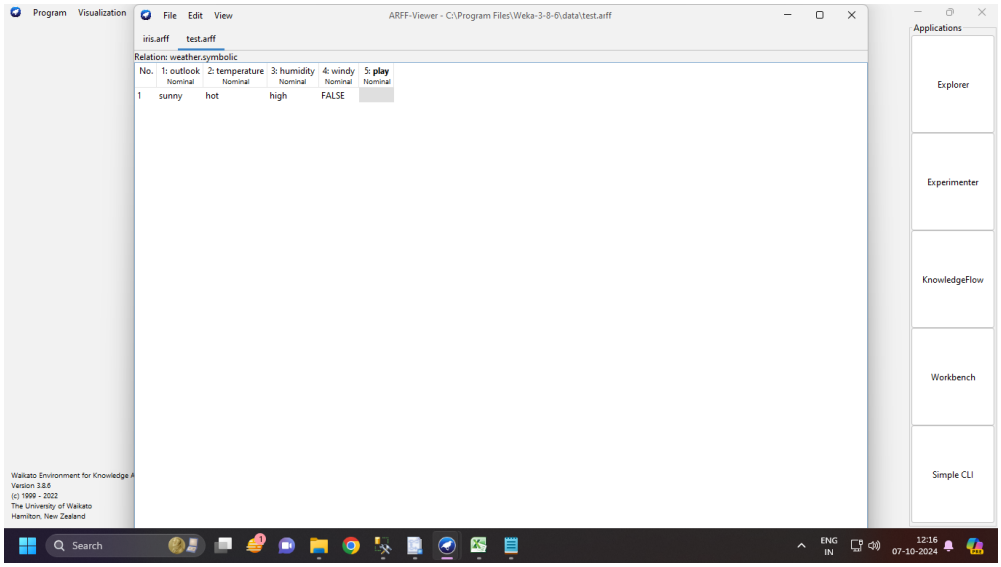
Search
ENG IN
12:14
07-10-2024

C) Aim : Creating testing dataset






Program Visualization
File Edit View
ARFF-Viewer - C:\Program Files\Weka-3-8-6\data\test.arff
iris.arff test.arff
Relation: weather.symbolic
No. 1: outlook Nominal 2: temperature Nominal 3: humidity Nominal 4: windy Nominal 5: play Nominal
1 sunny hot high FALSE
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
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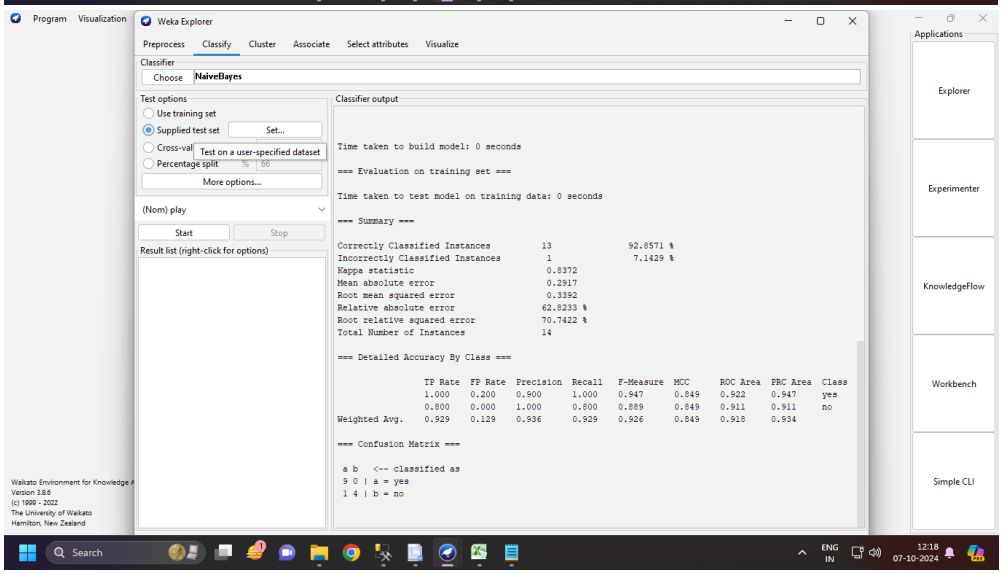
Hamilton, New Zealand
Search
ENG IN
12:16
07-10-2024


Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-val
Test on a user-specified dataset
Percentage split % 66
More options...
(Nom) play
Start Stop
Result list (right-click for options)
Classifier output
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 13 92.8571 %
Incorrectly Classified Instances 1 7.1429 %
Kappa statistic 0.8372
Mean absolute error 0.2917
Root mean squared error 0.3392
Relative absolute error 62.8233 %
Root relative squared error 70.7422 %
Total Number of Instances 14
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class
1.000 0.200 0.900 1.000 0.947 0.849 0.922 0.947 yes
0.800 0.000 1.000 0.800 0.889 0.849 0.911 0.911 no
Weighted Avg. 0.929 0.129 0.936 0.929 0.926 0.849 0.918 0.934
=== Confusion Matrix ===
a b <-- classified as
9 0 | a = yes
1 4 | b = no
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
Version 3.8.6
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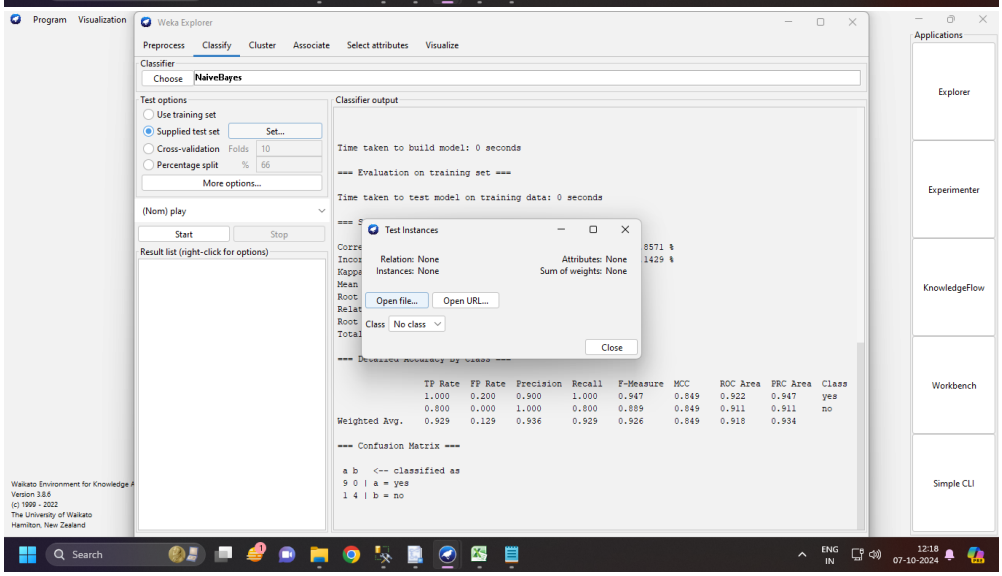
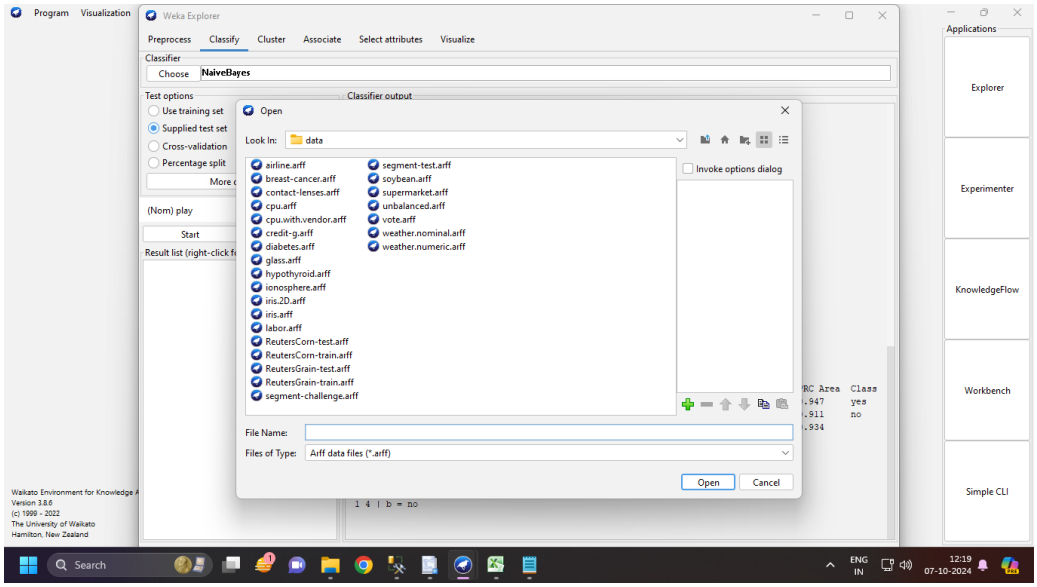
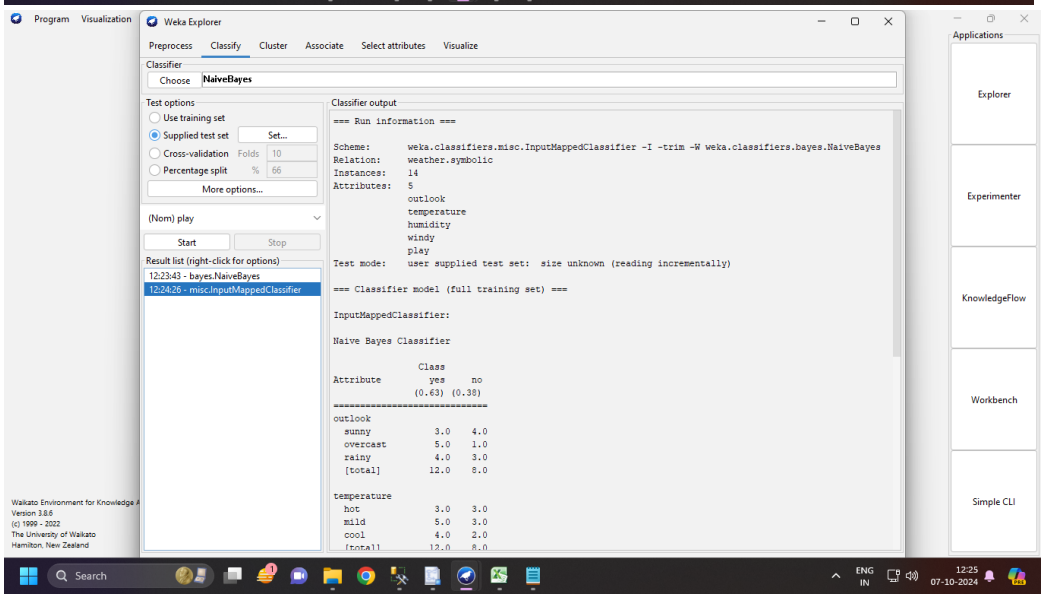
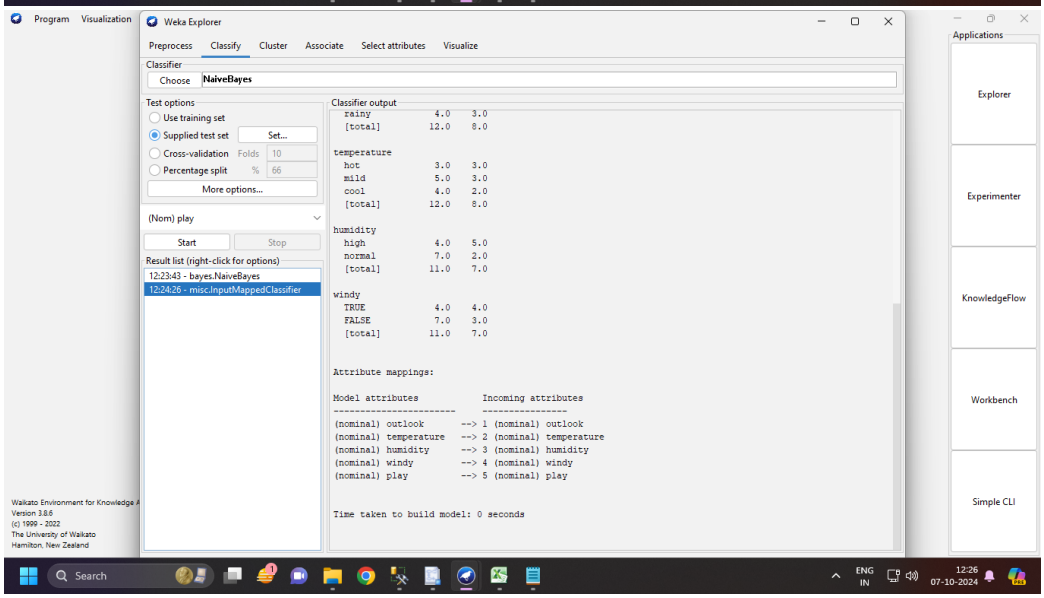
Hamilton, New Zealand
Search
ENG IN
12:18
07-10-2024

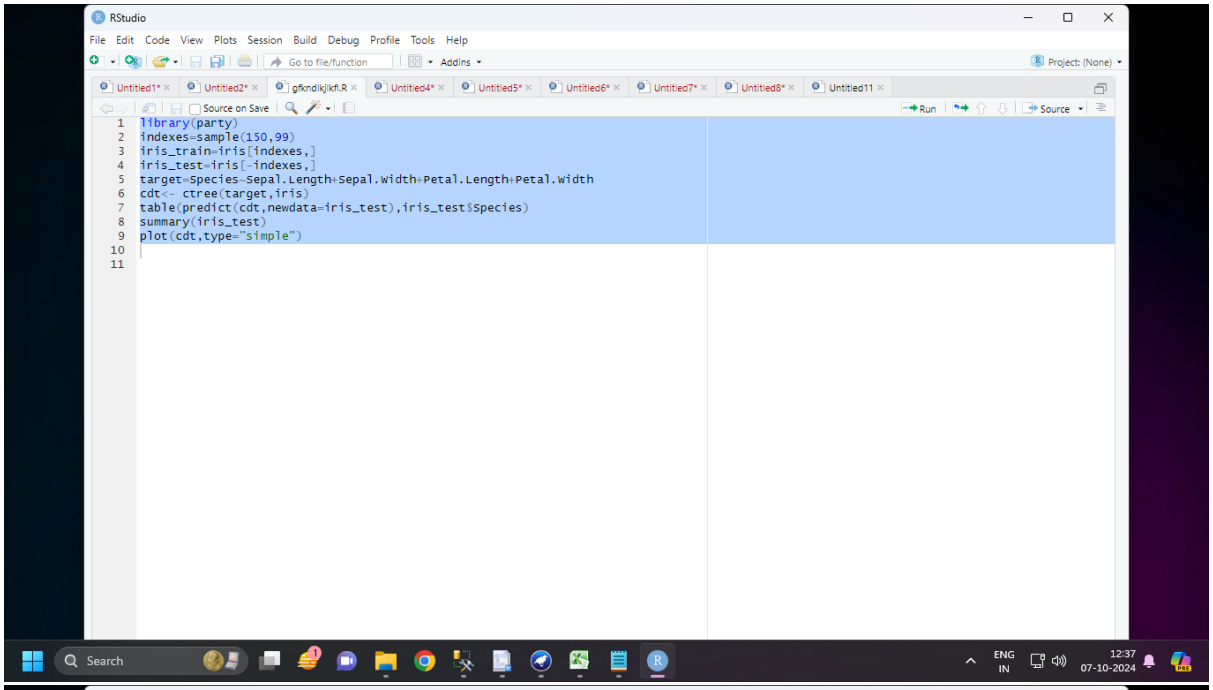

Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
More options...
(Nom) play
Start Stop
Result list (right-click for options)
Classifier output
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
Test Instances
Relation: None
Instances: None
Attributes: None
Sum of weights: None
Open file... Open URL...
Class No class
Close
TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class
1.000 0.200 0.900 1.000 0.947 0.849 0.922 0.947 yes
0.800 0.000 1.000 0.800 0.889 0.849 0.911 0.911 no
Weighted Avg. 0.929 0.129 0.936 0.929 0.926 0.849 0.918 0.934
=== Confusion Matrix ===
a b <-- classified as
9 0 | a = yes
1 4 | b = no
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
Version 3.8.6
(c) 1999 - 2022
The University of Waikato
Hamilton, New Zealand
Search
ENG IN
12:18
07-10-2024

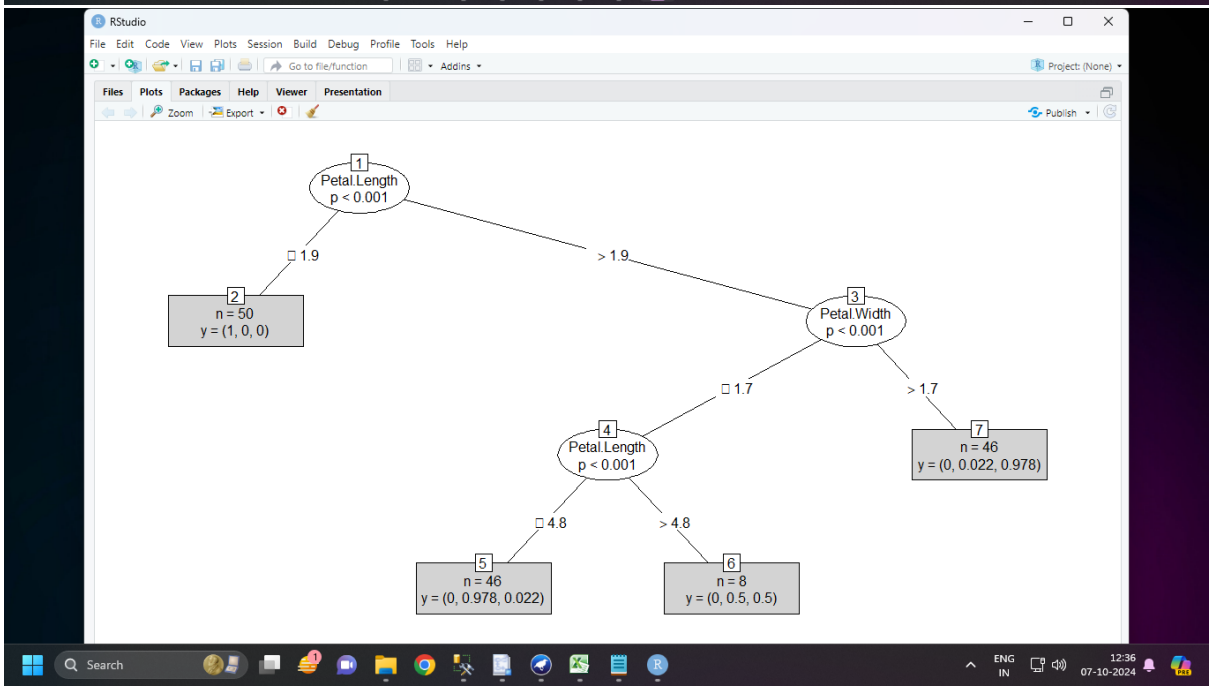

Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set
Cross-validation
Percentage split
(Nom) play
Start
Result list (right-click f
Classifier output
Open
Look In: data
airline.arff
breast-cancer.arff
contact-lenses.arff
cpu.arff
cpu.with.vendor.arff
credit-g.arff
diabetes.arff
glass.arff
hypothyroid.arff
ionosphere.arff
iris.2D.arff
iris.arff
labor.arff
ReutersCorn-test.arff
ReutersCorn-train.arff
ReutersGrain-test.arff
ReutersGrain-train.arff
segment-challenge.arff
segment-test.arff
soybean.arff
supermarket.arff
unbalanced.aiff
vote.arff
weather.nominal.arff
weather.numeric.arff
Invoke options dialog
File Name:
Files of Type: Arff data files (*.arff)
Open
Cancel
RC Area Class
.947 yes
.911 no
.934
1 4 | b = no
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
12:19
07-10-2024


Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
More options...
(Nom) play
Start Stop
Result list (right-click for options)
12:23:43 - bayes.NaiveBayes
12:24:26 - misc.InputMappedClassifier
Classifier output
=== Run information ===
Scheme: weka.classifiers.misc.InputMappedClassifier -I -trim -W weka.classifiers.bayes.NaiveBayes
Relation: weather.symbolic
Instances: 14
Attributes: 5
outlook
temperature
humidity
windy
play
Test mode: user supplied test set: size unknown (reading incrementally)
=== Classifier model (full training set) ===
InputMappedClassifier:
Naive Bayes Classifier
Class
Attribute yes no
(0.63) (0.38)
outlook
sunny 3.0 4.0
overcast 5.0 1.0
rainy 4.0 3.0
[total] 12.0 8.0
temperature
hot 3.0 3.0
mild 5.0 3.0
cool 4.0 2.0
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
12:25
07-10-2024

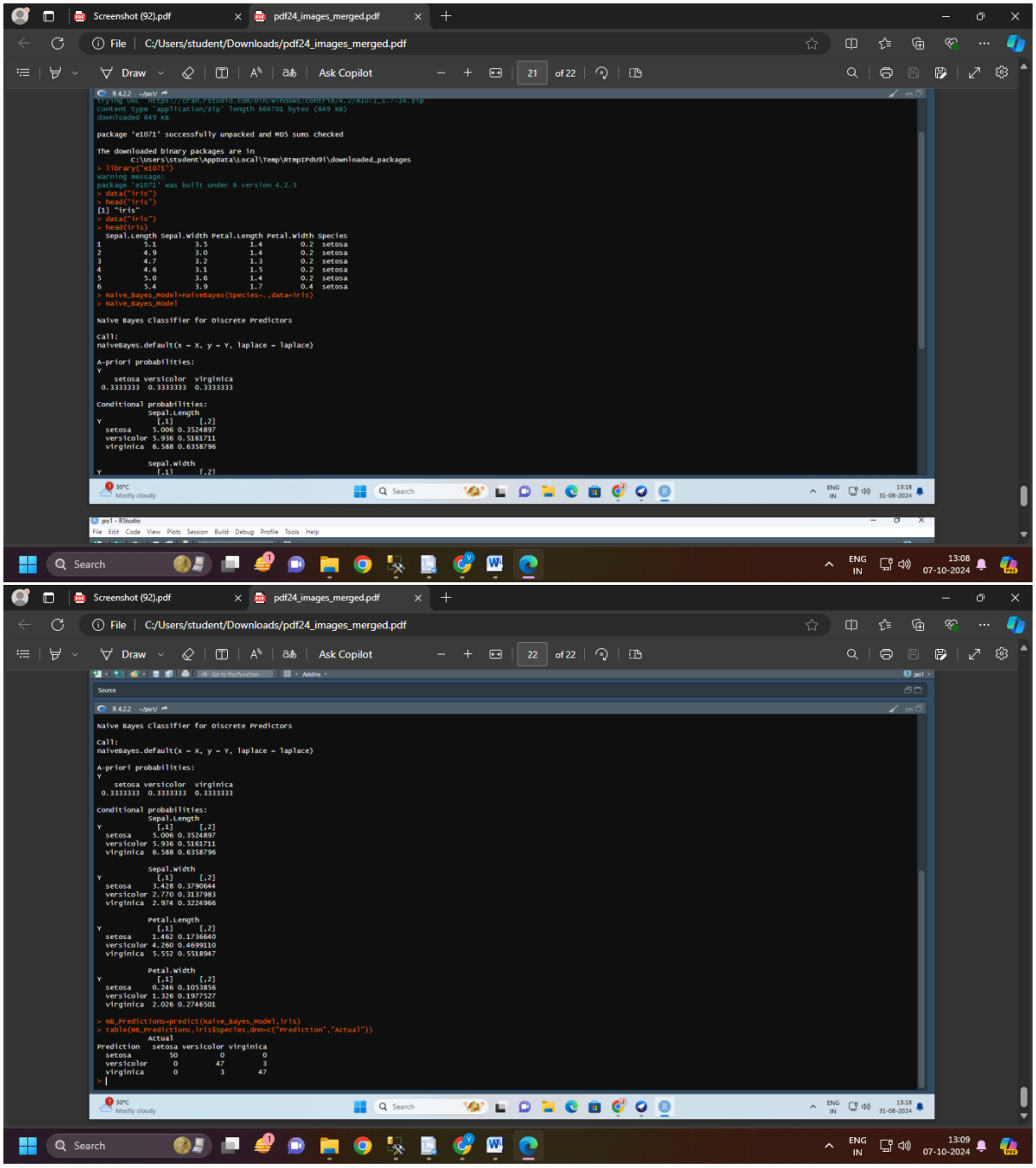

Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
More options...
(Nom) play
Start Stop
Result list (right-click for options)
12:23:43 - bayes.NaiveBayes
12:24:26 - misc.InputMappedClassifier
Classifier output
rainy 4.0 3.0
[total] 12.0 8.0
temperature
hot 3.0 3.0
mild 5.0 3.0
cool 4.0 2.0
[total] 12.0 8.0
humidity
high 4.0 5.0
normal 7.0 2.0
[total] 11.0 7.0
windy
TRUE 4.0 4.0
FALSE 7.0 3.0
[total] 11.0 7.0
Attribute mappings:
Model attributes Incoming attributes
(nominal) outlook --> 1 (nominal) outlook
(nominal) temperature --> 2 (nominal) temperature
(nominal) humidity --> 3 (nominal) humidity
(nominal) windy --> 4 (nominal) windy
(nominal) play --> 5 (nominal) play
Time taken to build model: 0 seconds
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Search
ENG IN
12:26
07-10-2024

D) Aim : Build decision tree using R use iris dataset





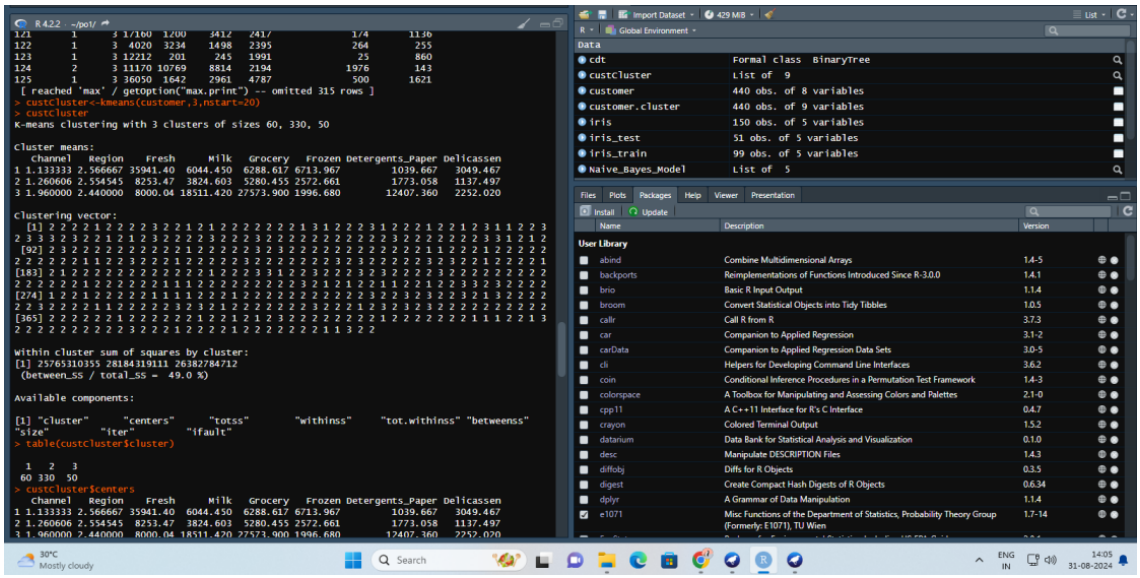
E) Aim : Build Navi Bayes model use dataset



Practical No : 6

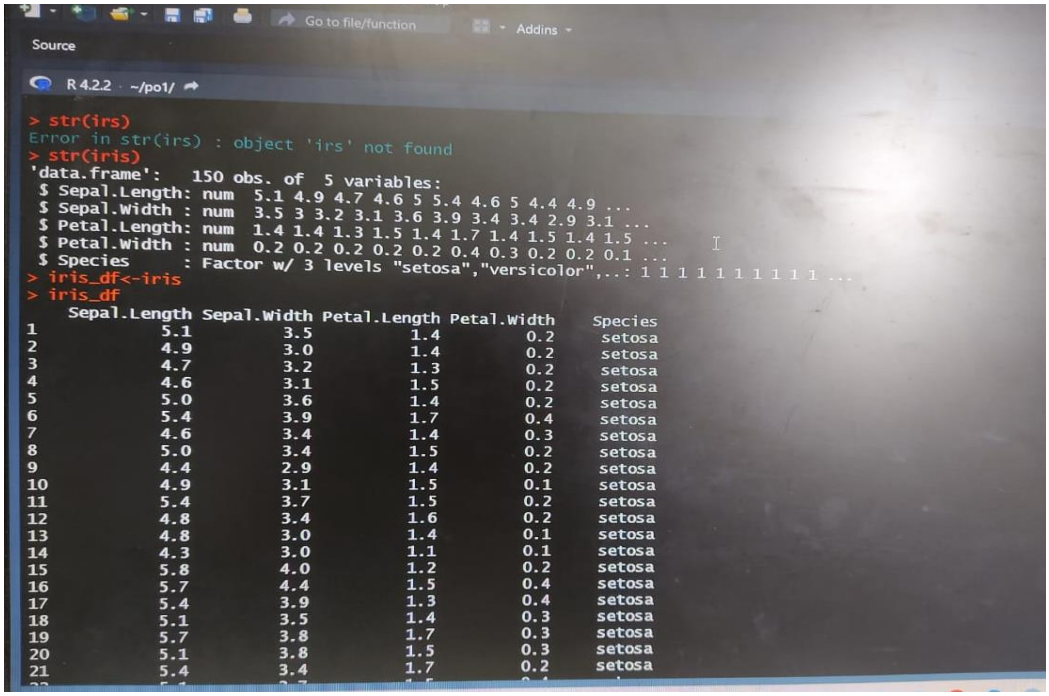
Aim : Perform clustering technique on customer dataset download dataset from uc reprository.

```
R 4.2.2 · ~/po1/
2: In read.table(file = file, header = header, sep = sep, quote = quote,  :
  line 2 appears to contain embedded nulls
> customer<-read.csv(file.choose(),sep=",",header=T)
> customer
    Channel Region Fresh  Milk Grocery Frozen Detergents_Paper Delicassen
1         2      3 12669  9656    7561    214              2674       1338
2         2      3  7057  9810    9568   1762              3293       1776
3         2      3  6353  8808    7684   2405              3516       7844
4         1      3 13265  1196    4221   6404               507       1788
5         2      3 22615  5410    7198   3915              1777       5185
6         2      3  9413  8259    5126    666              1795       1451
7         2      3 12126  3199    6975    480              3140        545
8         2      3  7579  4956    9426   1669              3321       2566
9         1      3  5963  3648    6192    425              1716        750
10        2      3  6006 11093   18881   1159              7425       2098
11        2      3  3366  5403   12974   4400              5977       1744
12        2      3 13146  1124    4523   1420               549        497
13        2      3 31714 12319   11757    287              3881       2931
14        2      3 21217  6208   14982   3095              6707        602
15        2      3 24653  9465   12091    294              5058       2168
16        1      3 10253  1114    3821    397               964        412
17        2      3  1020  8816   12121    134              4508       1080
18        1      3  5876  6157    2933    839               370       4478
19        2      3 18601  6327   10099   2205              2767       3181
20        1      3  7780  2495    9464    669              2518        501
21        2      3 17546  4519    4602   1066              2259       2124
22        1      3  5567   871    2010   3383               375        569
23        1      3 31276  1917    4469   9408              2381       4334
24        2      3 26373 36423   22019   5154              4337      16523
25        2      3 22647  9776   13792   2915              4482       5778
26        2      3 16165  4230    7595    201              4003         57
27        1      3  9898   961    2861   3151               242        833
28        1      3 14276   803    3045    485               100        518
29        2      3  4113 20484   25957   1158              8604       5206
30        1      3 43088  2100    2609   1200              1107        823
31        1      3 18815  3610   11107   1148              2134       2963
32        1      3  2612  4339    3133   2088               820        985
33        1      3 21632  1318    2886    266               918        405
34        1      3 29729  4786    7326   6130               361       1083
35        1      3  1502  1979    2262    425               483        395
36        2      3   688  5491   11091    833              4239        436
37        1      3 29955  4362    5428   1729               862       4626
38        2      3 15168 10556   12477   1920              6506        714
39        2      3  4591 15729   16709     33              6956        433
40        1      3 56159   555     902  10002               212       2916
```

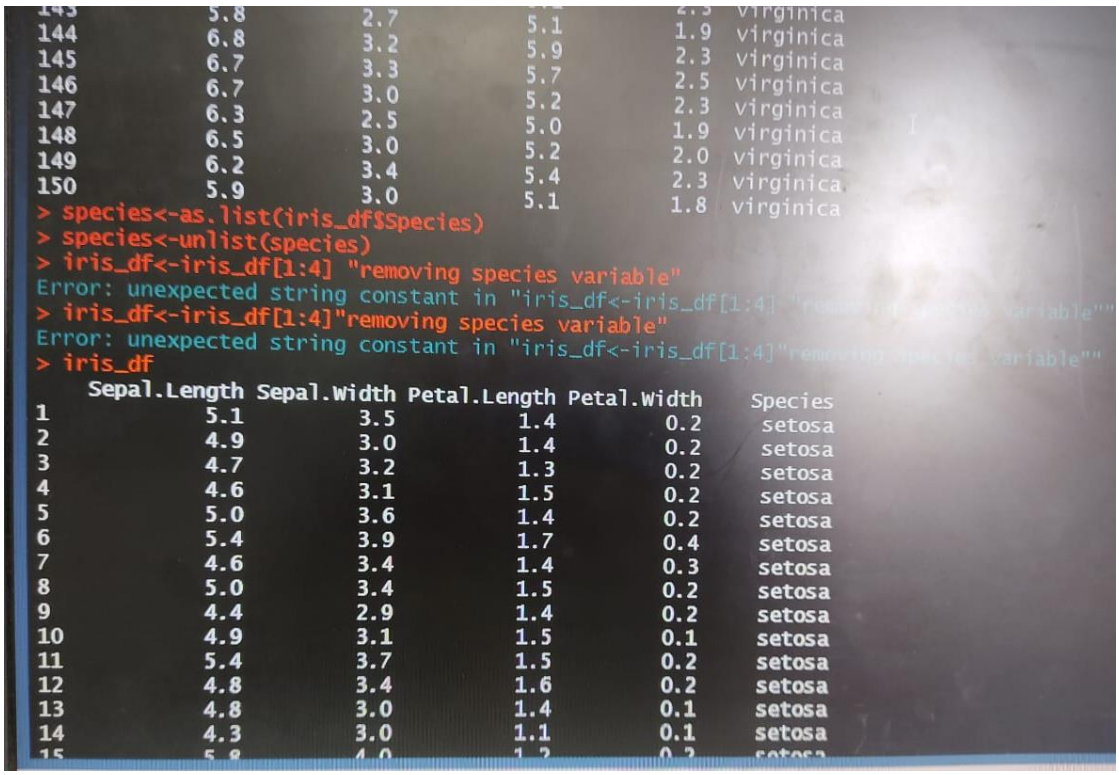


Practical No : 7

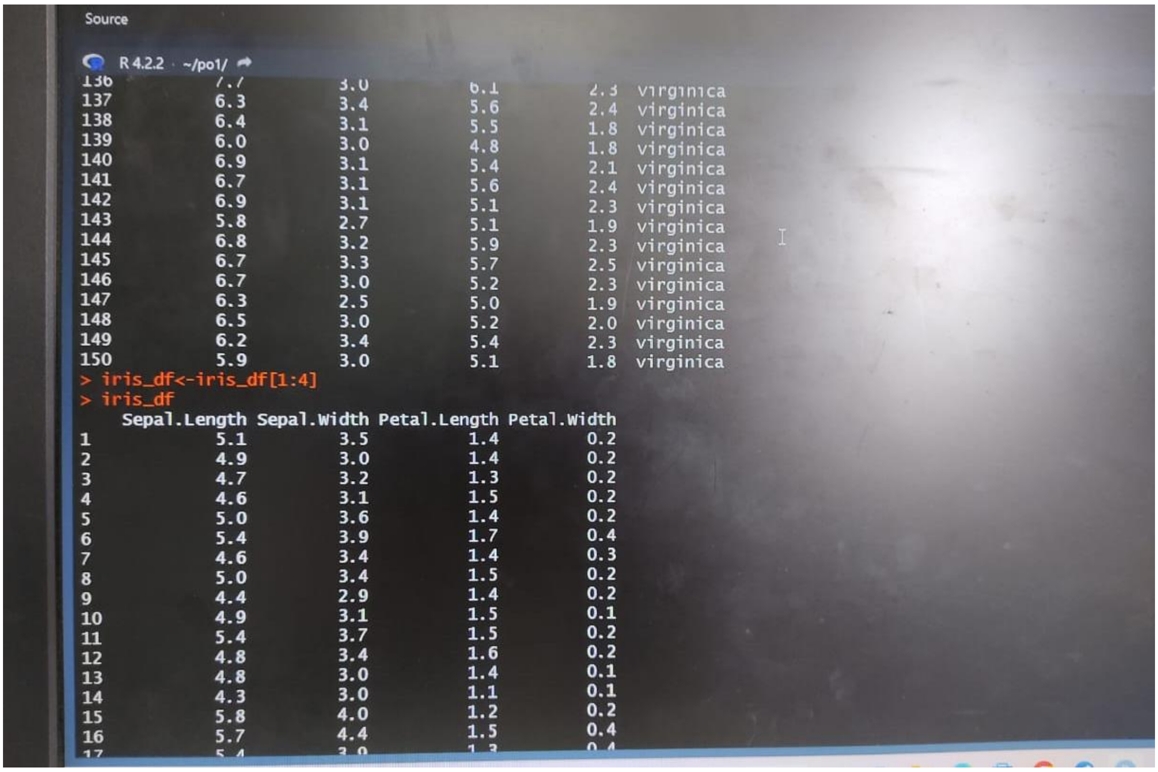
A) Clustering in R using simple k-means algorithm.



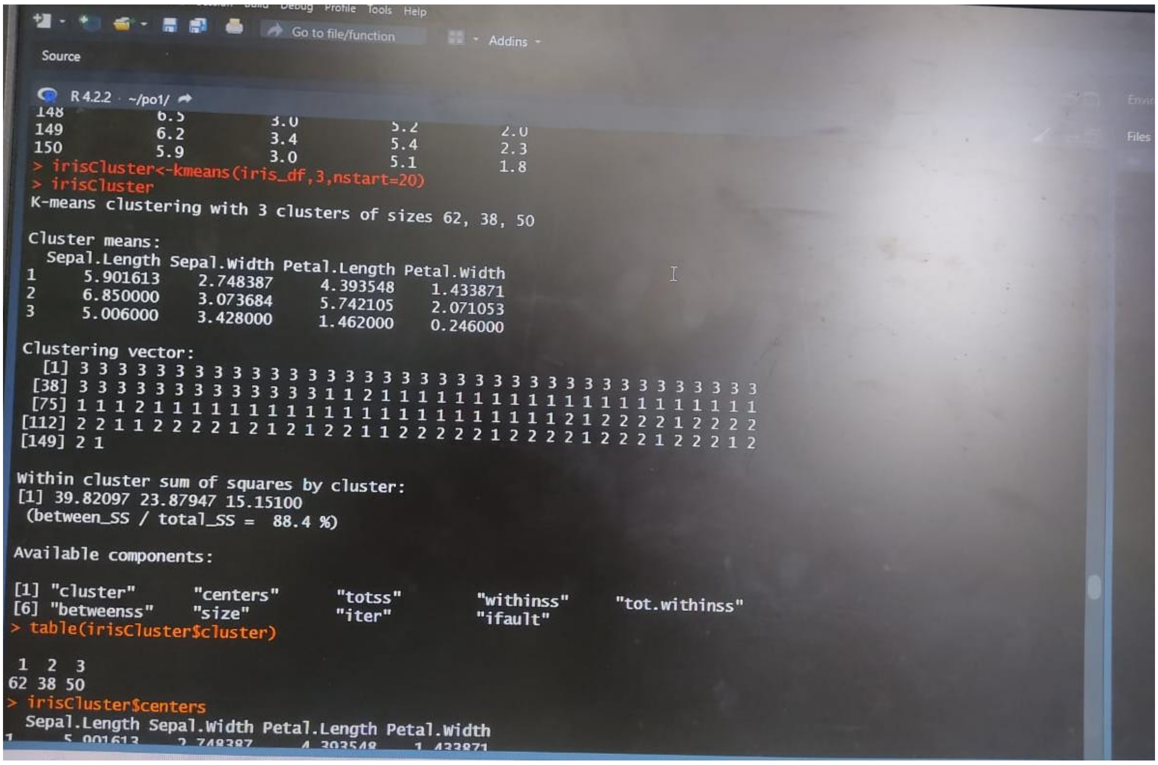
```
Source
R 4.2.2 · ~/po1/
> str(irs)
Error in str(irs) : object 'irs' not found
> str(iris)
'data.frame':   150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species     : Factor w/ 3 levels "setosa","versicolor",..: 1 1 1 1 1 1 1 1 1 1 ...
> iris_df<-iris
> iris_df
    Sepal.Length Sepal.Width Petal.Length Petal.Width    Species
1            5.1         3.5          1.4         0.2     setosa
2            4.9         3.0          1.4         0.2     setosa
3            4.7         3.2          1.3         0.2     setosa
4            4.6         3.1          1.5         0.2     setosa
5            5.0         3.6          1.4         0.2     setosa
6            5.4         3.9          1.7         0.4     setosa
7            4.6         3.4          1.4         0.3     setosa
8            5.0         3.4          1.5         0.2     setosa
9            4.4         2.9          1.4         0.2     setosa
10           4.9         3.1          1.5         0.1     setosa
11           5.4         3.7          1.5         0.2     setosa
12           4.8         3.4          1.6         0.2     setosa
13           4.8         3.0          1.4         0.1     setosa
14           4.3         3.0          1.1         0.1     setosa
15           5.8         4.0          1.2         0.2     setosa
16           5.7         4.4          1.5         0.4     setosa
17           5.4         3.9          1.3         0.4     setosa
18           5.1         3.5          1.4         0.3     setosa
19           5.7         3.8          1.7         0.3     setosa
20           5.1         3.8          1.5         0.3     setosa
21           5.4         3.4          1.7         0.2     setosa
```



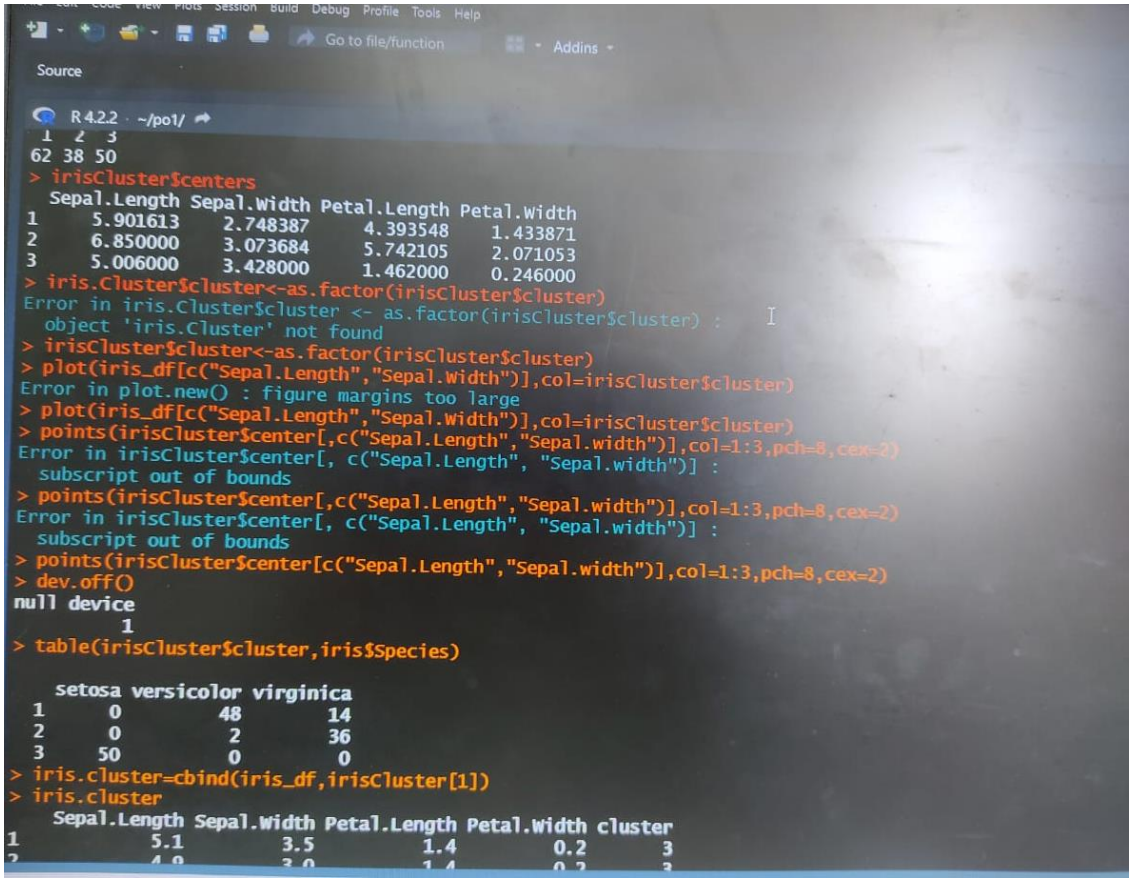
```
143          5.8         2.7          5.1         1.9  virginica
144          6.8         3.2          5.9         2.3  virginica
145          6.7         3.3          5.7         2.5  virginica
146          6.7         3.0          5.2         2.3  virginica
147          6.3         2.5          5.0         1.9  virginica
148          6.5         3.0          5.2         2.0  virginica
149          6.2         3.4          5.4         2.3  virginica
150          5.9         3.0          5.1         1.8  virginica
> species<-as.list(iris_df$Species)
> species<-unlist(species)
> iris_df<-iris_df[1:4] "removing species variable"
Error: unexpected string constant in "iris_df<-iris_df[1:4] "removing species variable""
> iris_df<-iris_df[1:4]"removing species variable"
Error: unexpected string constant in "iris_df<-iris_df[1:4]"removing species variable""
> iris_df
    Sepal.Length Sepal.Width Petal.Length Petal.Width    Species
1            5.1         3.5          1.4         0.2     setosa
2            4.9         3.0          1.4         0.2     setosa
3            4.7         3.2          1.3         0.2     setosa
4            4.6         3.1          1.5         0.2     setosa
5            5.0         3.6          1.4         0.2     setosa
6            5.4         3.9          1.7         0.4     setosa
7            4.6         3.4          1.4         0.3     setosa
8            5.0         3.4          1.5         0.2     setosa
9            4.4         2.9          1.4         0.2     setosa
10           4.9         3.1          1.5         0.1     setosa
11           5.4         3.7          1.5         0.2     setosa
12           4.8         3.4          1.6         0.2     setosa
13           4.8         3.0          1.4         0.1     setosa
14           4.3         3.0          1.1         0.1     setosa
15           5.8         4.0          1.2         0.2     setosa
```



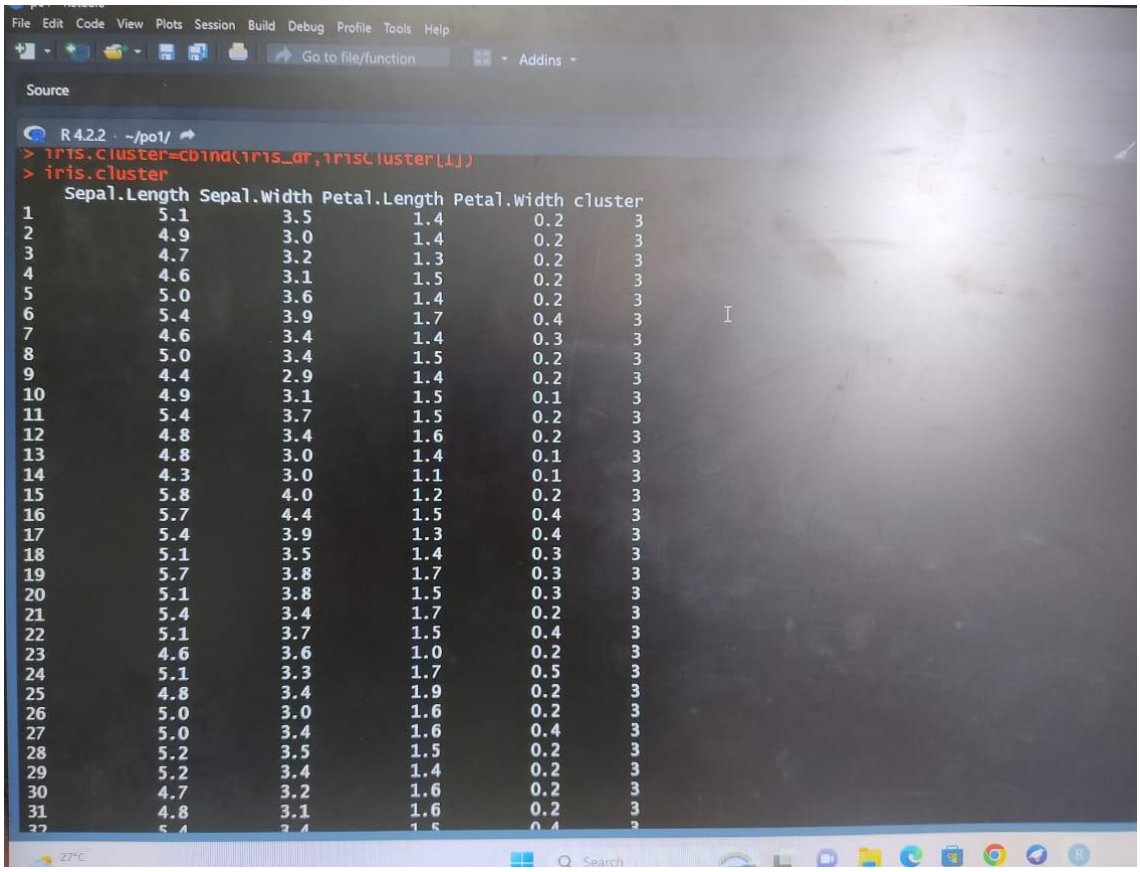
```
Source
R 4.2.2 · ~/po1/
136          7.7         3.0          6.1         2.3  virginica
137          6.3         3.4          5.6         2.4  virginica
138          6.4         3.1          5.5         1.8  virginica
139          6.0         3.0          4.8         1.8  virginica
140          6.9         3.1          5.4         2.1  virginica
141          6.7         3.1          5.6         2.4  virginica
142          6.9         3.1          5.1         2.3  virginica
143          5.8         2.7          5.1         1.9  virginica
144          6.8         3.2          5.9         2.3  virginica
145          6.7         3.3          5.7         2.5  virginica
146          6.7         3.0          5.2         2.3  virginica
147          6.3         2.5          5.0         1.9  virginica
148          6.5         3.0          5.2         2.0  virginica
149          6.2         3.4          5.4         2.3  virginica
150          5.9         3.0          5.1         1.8  virginica
> iris_df<-iris_df[1:4]
> iris_df
    Sepal.Length Sepal.Width Petal.Length Petal.Width
1            5.1         3.5          1.4         0.2
2            4.9         3.0          1.4         0.2
3            4.7         3.2          1.3         0.2
4            4.6         3.1          1.5         0.2
5            5.0         3.6          1.4         0.2
6            5.4         3.9          1.7         0.4
7            4.6         3.4          1.4         0.3
8            5.0         3.4          1.5         0.2
9            4.4         2.9          1.4         0.2
10           4.9         3.1          1.5         0.1
11           5.4         3.7          1.5         0.2
12           4.8         3.4          1.6         0.2
13           4.8         3.0          1.4         0.1
14           4.3         3.0          1.1         0.1
15           5.8         4.0          1.2         0.2
16           5.7         4.4          1.5         0.4
```



```
Go to file/function    Addins
Source
R 4.2.2 · ~/po1/
148          6.5         3.0          5.2         2.0
149          6.2         3.4          5.4         2.3
150          5.9         3.0          5.1         1.8
> irisCluster<-kmeans(iris_df,3,nstart=20)
> irisCluster
K-means clustering with 3 clusters of sizes 62, 38, 50

Cluster means:
  Sepal.Length Sepal.Width Petal.Length Petal.Width
1     5.901613    2.748387     4.393548    1.433871
2     6.850000    3.073684     5.742105    2.071053
3     5.006000    3.428000     1.462000    0.246000

Clustering vector:
  [1] 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
 [38] 3 3 3 3 3 3 3 3 3 3 3 3 3 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 [75] 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
[112] 2 2 1 1 2 2 2 2 1 2 1 2 1 2 2 1 1 2 2 2 2 2 1 2 2 2 2 1 2 2 2 1 2 2 2 1 2
[149] 2 1

Within cluster sum of squares by cluster:
[1] 39.82097 23.87947 15.15100
 (between_SS / total_SS =  88.4 %)

Available components:

[1] "cluster"      "centers"      "totss"        "withinss"     "tot.withinss"
[6] "betweenss"    "size"         "iter"         "ifault"
> table(irisCluster$cluster)

 1  2  3
62 38 50
> irisCluster$centers
  Sepal.Length Sepal.Width Petal.Length Petal.Width
```



```
> irisCluster$centers
  Sepal.Length Sepal.Width Petal.Length Petal.Width
1     5.901613    2.748387     4.393548    1.433871
2     6.850000    3.073684     5.742105    2.071053
3     5.006000    3.428000     1.462000    0.246000
> iris.Cluster$cluster<-as.factor(irisCluster$cluster)
Error in iris.Cluster$cluster <- as.factor(irisCluster$cluster) :
  object 'iris.Cluster' not found
> irisCluster$cluster<-as.factor(irisCluster$cluster)
> plot(iris_df[c("Sepal.Length","Sepal.Width")],col=irisCluster$cluster)
Error in plot.new() : figure margins too large
> plot(iris_df[c("Sepal.Length","Sepal.Width")],col=irisCluster$cluster)
> points(irisCluster$center[,c("Sepal.Length","Sepal.Width")],col=1:3,pch=8,cex=2)
Error in irisCluster$center[, c("Sepal.Length", "Sepal.Width")] :
  subscript out of bounds
> points(irisCluster$center[,c("Sepal.Length","Sepal.Width")],col=1:3,pch=8,cex=2)
Error in irisCluster$center[, c("Sepal.Length", "Sepal.Width")] :
  subscript out of bounds
> points(irisCluster$center[c("Sepal.Length","Sepal.Width")],col=1:3,pch=8,cex=2)
> dev.off()
null device
          1
> table(irisCluster$cluster,iris$Species)

   setosa versicolor virginica
  1      0         48        14
  2      0          2        36
  3     50          0         0
> iris.cluster=cbind(iris_df,irisCluster[1])
> iris.cluster
    Sepal.Length Sepal.Width Petal.Length Petal.Width cluster
1            5.1         3.5          1.4         0.2       3
```

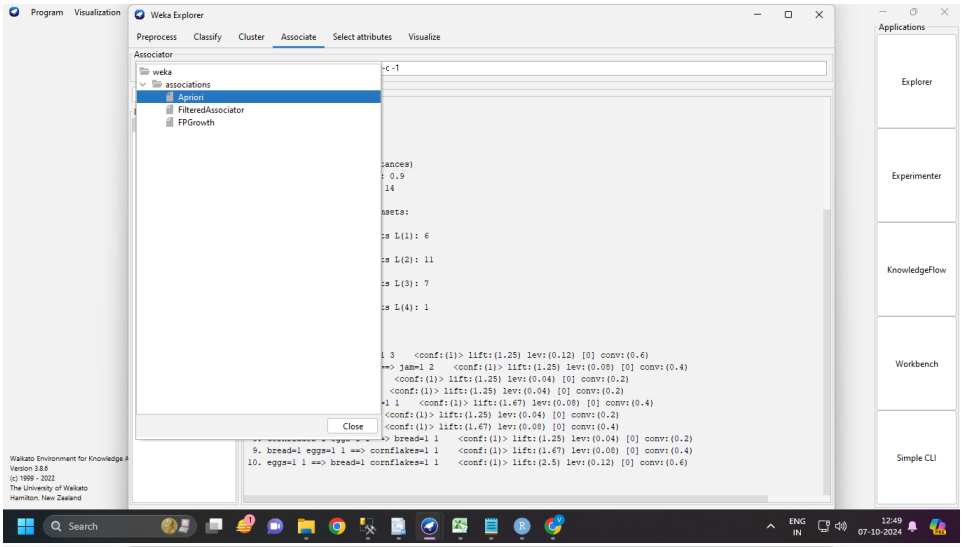


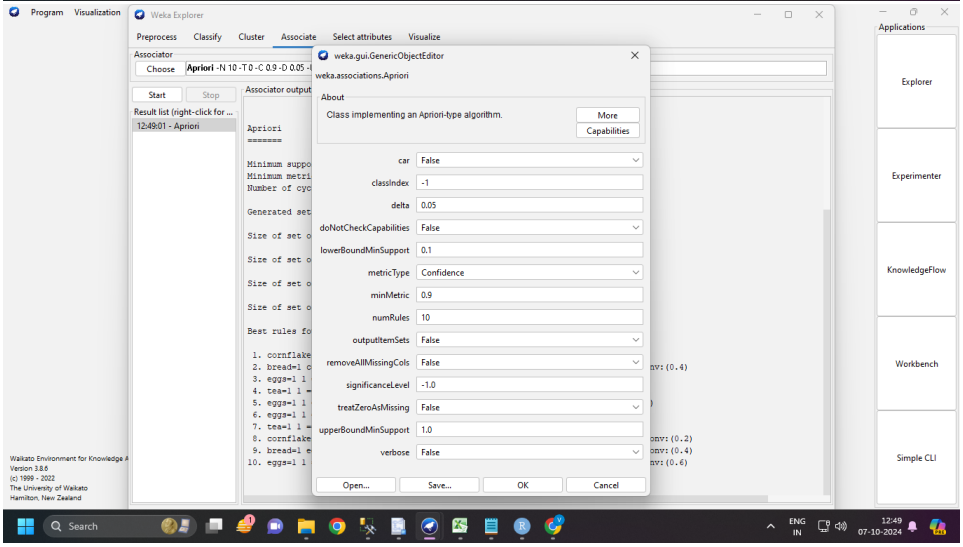
```
> iris.cluster=cbind(iris_df,irisCluster[1])
> iris.cluster
    Sepal.Length Sepal.Width Petal.Length Petal.Width cluster
1            5.1         3.5          1.4         0.2       3
2            4.9         3.0          1.4         0.2       3
3            4.7         3.2          1.3         0.2       3
4            4.6         3.1          1.5         0.2       3
5            5.0         3.6          1.4         0.2       3
6            5.4         3.9          1.7         0.4       3
7            4.6         3.4          1.4         0.3       3
8            5.0         3.4          1.5         0.2       3
9            4.4         2.9          1.4         0.2       3
10           4.9         3.1          1.5         0.1       3
11           5.4         3.7          1.5         0.2       3
12           4.8         3.4          1.6         0.2       3
13           4.8         3.0          1.4         0.1       3
14           4.3         3.0          1.1         0.1       3
15           5.8         4.0          1.2         0.2       3
16           5.7         4.4          1.5         0.4       3
17           5.4         3.9          1.3         0.4       3
18           5.1         3.5          1.4         0.3       3
19           5.7         3.8          1.7         0.3       3
20           5.1         3.8          1.5         0.3       3
21           5.4         3.4          1.7         0.2       3
22           5.1         3.7          1.5         0.4       3
23           4.6         3.6          1.0         0.2       3
24           5.1         3.3          1.7         0.5       3
25           4.8         3.4          1.9         0.2       3
26           5.0         3.0          1.6         0.2       3
27           5.0         3.4          1.6         0.4       3
28           5.2         3.5          1.5         0.2       3
29           5.2         3.4          1.4         0.2       3
30           4.7         3.2          1.6         0.2       3
31           4.8         3.1          1.6         0.2       3
```

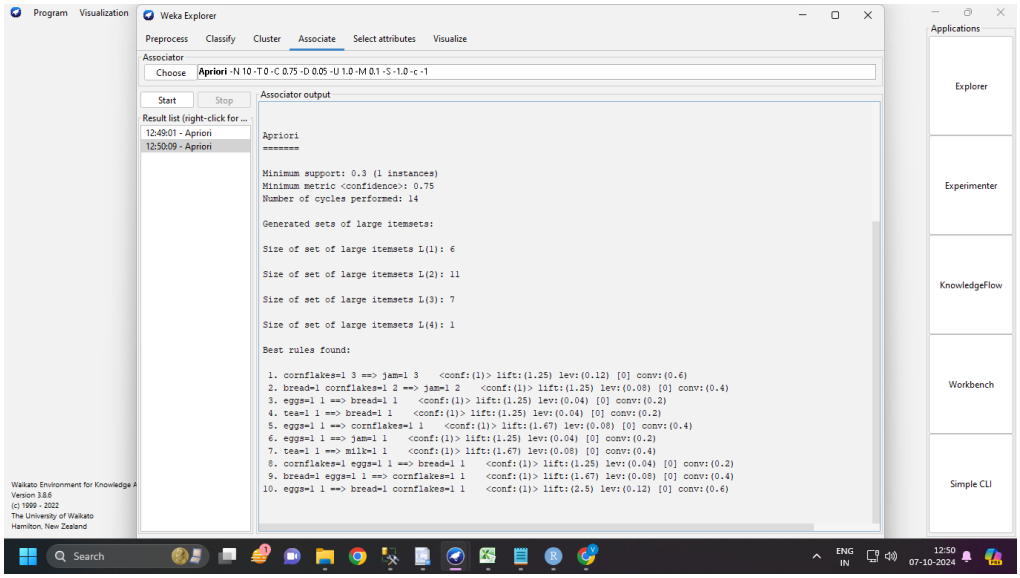

Sepal.Width
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
8.0
Sepal.Length
ENG
IN
14:21
14-09-2024

Practical No : 8

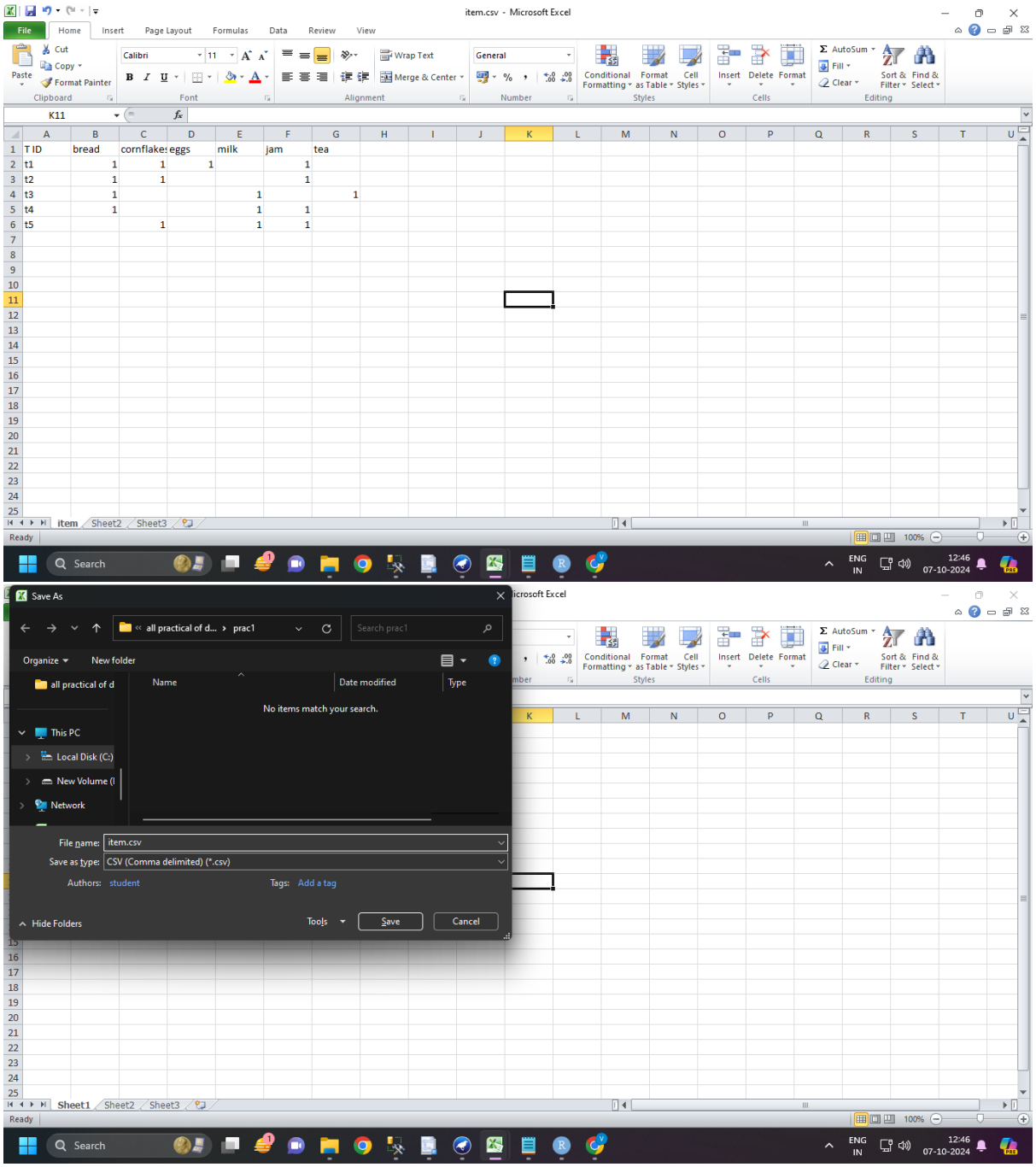
A) Applying predictive apriori in weka.

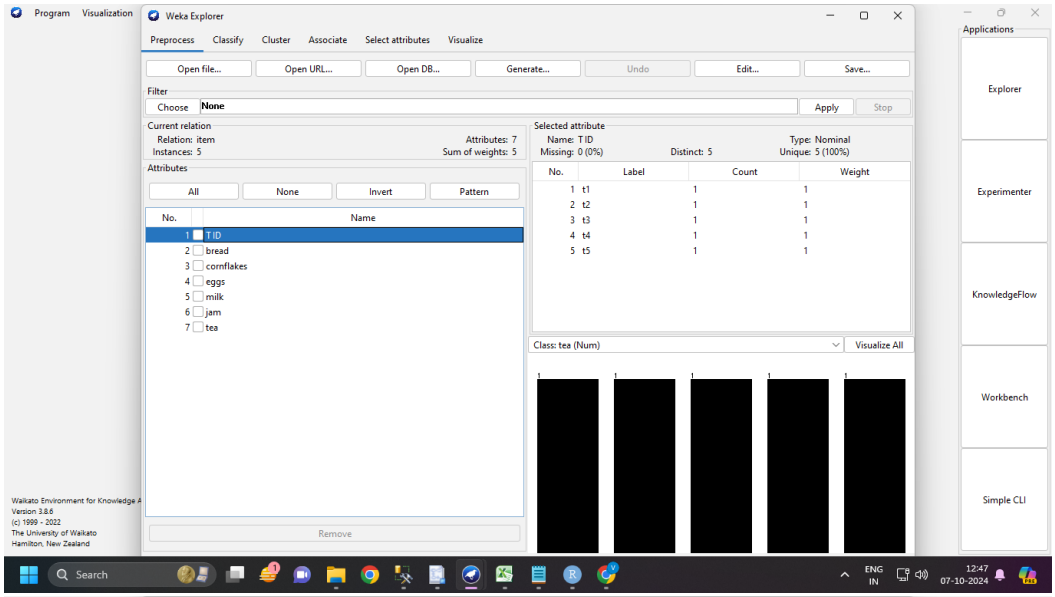






B) Applying predictive appriori on real world dataset consider dataset given above run the appriori given dataset with predefine data 50%, confidence 75% and the interpret the given dataset.




Program Visualization
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: item
Instances: 5
Attributes: 7
Sum of weights: 5
Selected attribute
Name: T ID
Missing: 0 (0%)
Distinct: 5
Type: Nominal
Unique: 5 (100%)
Attributes
All None Invert Pattern
No. Name
1 T ID
2 bread
3 cornflakes
4 eggs
5 milk
6 jam
7 tea
No. Label Count Weight
1 t1 1 1
2 t2 1 1
3 t3 1 1
4 t4 1 1
5 t5 1 1
Class: tea (Num)
Visualize All
Remove
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
Waikato Environment for Knowledge A
Version 3.8.6
(c) 1999 - 2022
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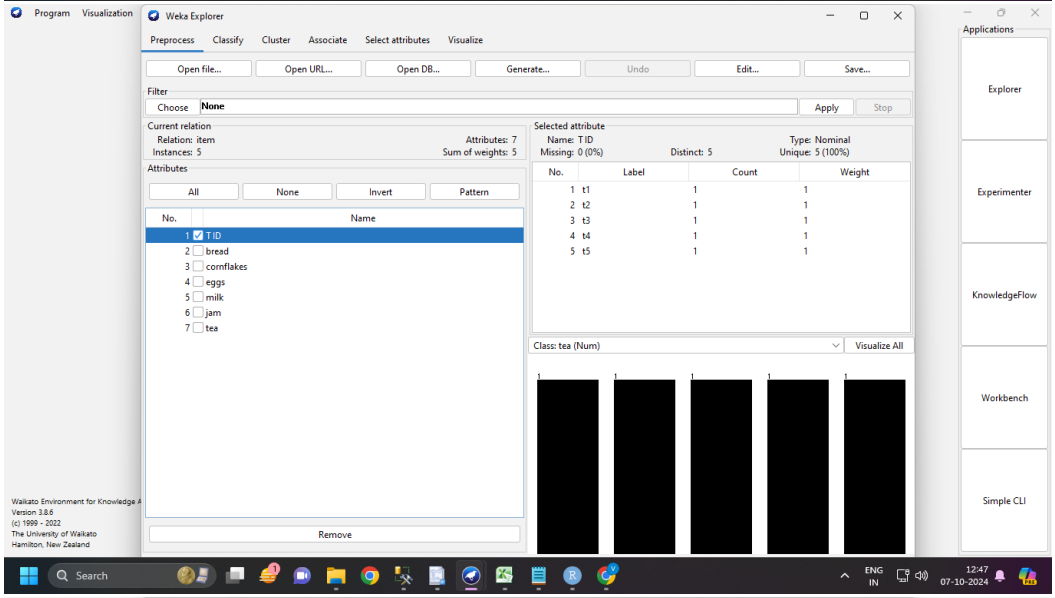
Hamilton, New Zealand
Search
ENG IN
12:47
07-10-2024


Program Visualization
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: item
Instances: 5
Attributes: 7
Sum of weights: 5
Selected attribute
Name: T ID
Missing: 0 (0%)
Distinct: 5
Type: Nominal
Unique: 5 (100%)
Attributes
All None Invert Pattern
No. Name
1 T ID
2 bread
3 cornflakes
4 eggs
5 milk
6 jam
7 tea
No. Label Count Weight
1 t1 1 1
2 t2 1 1
3 t3 1 1
4 t4 1 1
5 t5 1 1
Class: tea (Num)
Visualize All
Remove
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
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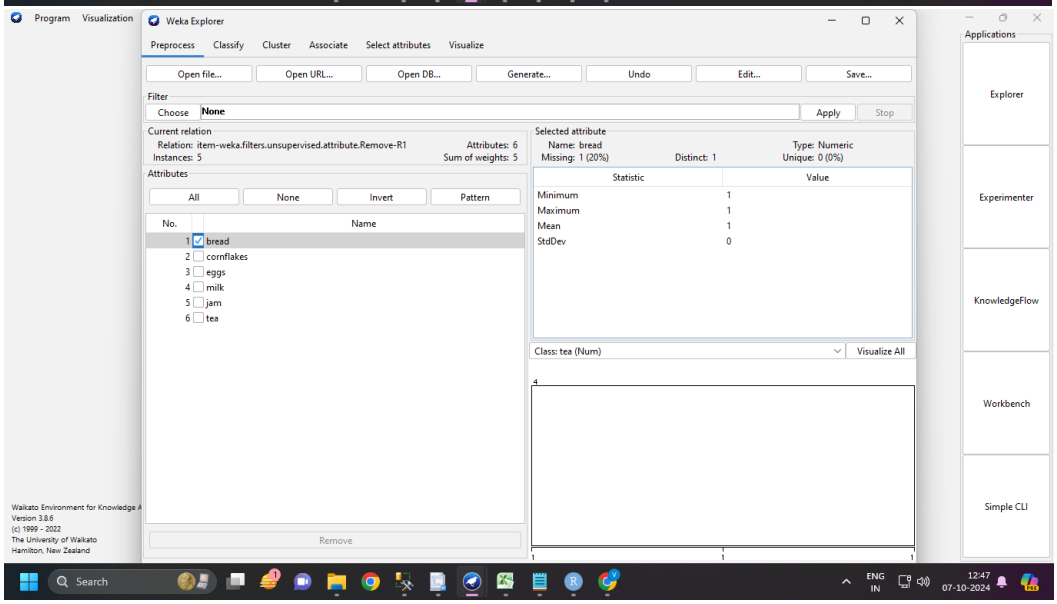
ENG IN
12:47
07-10-2024


Program Visualization
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: item-weka.filters.unsupervised.attribute.Remove-R1
Instances: 5
Attributes: 6
Sum of weights: 5
Selected attribute
Name: bread
Missing: 1 (20%)
Distinct: 1
Type: Numeric
Unique: 0 (0%)
Attributes
All None Invert Pattern
No. Name
1 bread
2 cornflakes
3 eggs
4 milk
5 jam
6 tea
Statistic Value
Minimum 1
Maximum 1
Mean 1
StdDev 0
Class: tea (Num)
Visualize All
Remove
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
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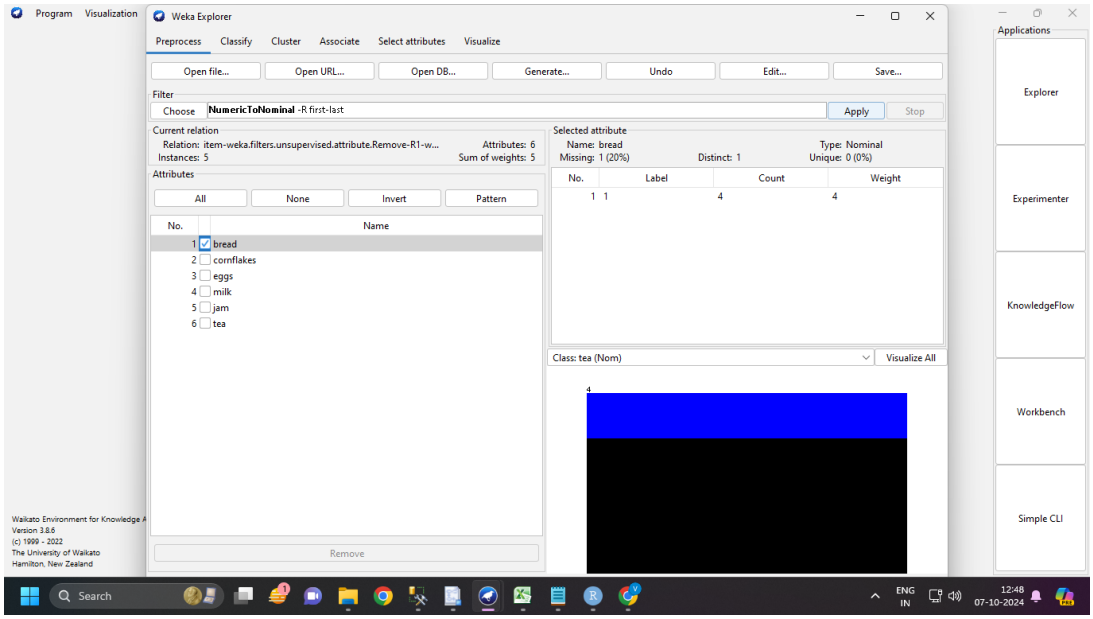
Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Open file... Open URL... Open DB... Generate... Undo Edit... Save...
Filter
Choose NumericToNominal -R first-last
Apply Stop
Current relation
Relation: item-weka.filters.unsupervised.attribute.Remove-R1-w...
Instances: 5
Attributes: 6
Sum of weights: 5
Attributes
All None Invert Pattern
No. Name
1 bread
2 cornflakes
3 eggs
4 milk
5 jam
6 tea
Remove
Selected attribute
Name: bread
Missing: 1 (20%)
Distinct: 1
Type: Nominal
Unique: 0 (0%)
No. Label Count Weight
1 1 4 4
Class: tea (Nom)
Visualize All
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
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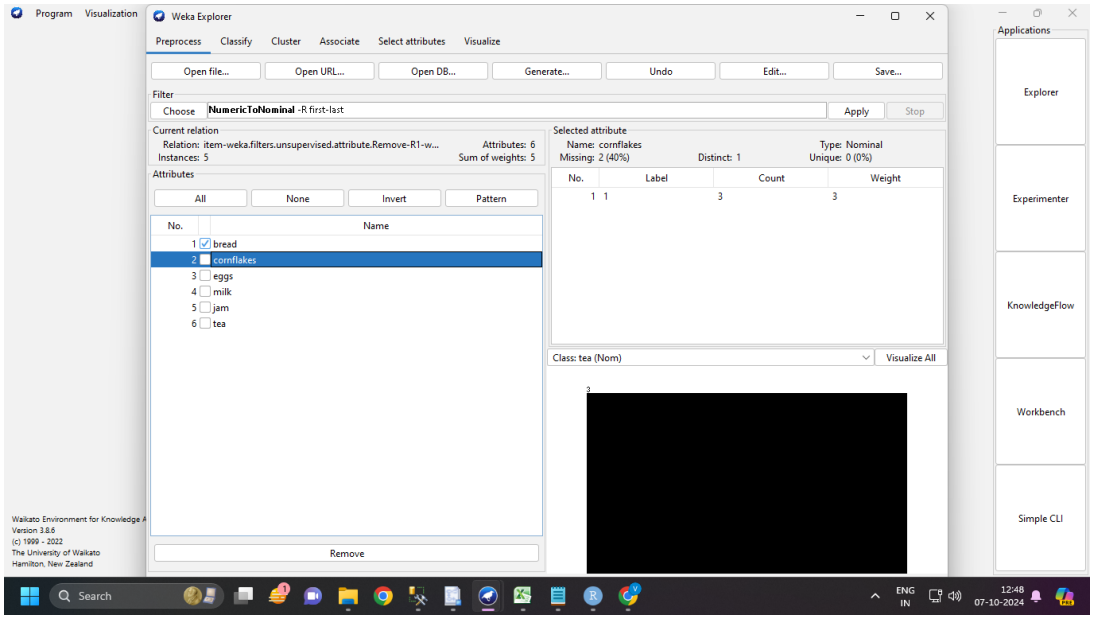
12:48
07-10-2024


Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Open file... Open URL... Open DB... Generate... Undo Edit... Save...
Filter
Choose NumericToNominal -R first-last
Apply Stop
Current relation
Relation: item-weka.filters.unsupervised.attribute.Remove-R1-w...
Instances: 5
Attributes: 6
Sum of weights: 5
Attributes
All None Invert Pattern
No. Name
1 bread
2 cornflakes
3 eggs
4 milk
5 jam
6 tea
Remove
Selected attribute
Name: cornflakes
Missing: 2 (40%)
Distinct: 1
Type: Nominal
Unique: 0 (0%)
No. Label Count Weight
1 1 3 3
Class: tea (Nom)
Visualize All
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
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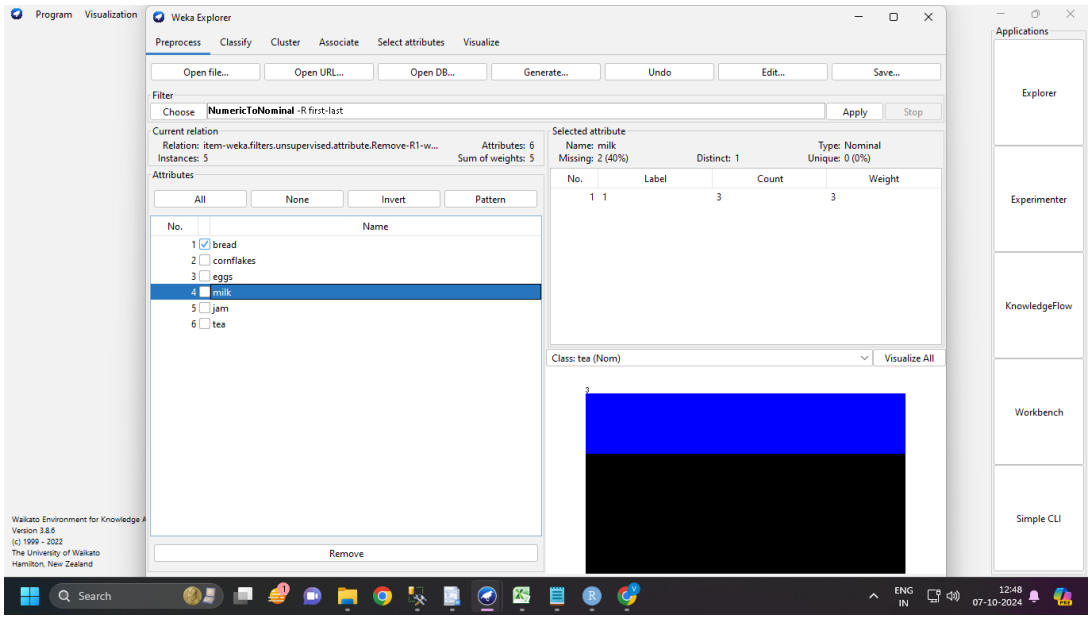
07-10-2024


Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Open file... Open URL... Open DB... Generate... Undo Edit... Save...
Filter
Choose NumericToNominal -R first-last
Apply Stop
Current relation
Relation: item-weka.filters.unsupervised.attribute.Remove-R1-w...
Instances: 5
Attributes: 6
Sum of weights: 5
Attributes
All None Invert Pattern
No. Name
1 bread
2 cornflakes
3 eggs
4 milk
5 jam
6 tea
Remove
Selected attribute
Name: milk
Missing: 2 (40%)
Distinct: 1
Type: Nominal
Unique: 0 (0%)
No. Label Count Weight
1 1 3 3
Class: tea (Nom)
Visualize All
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
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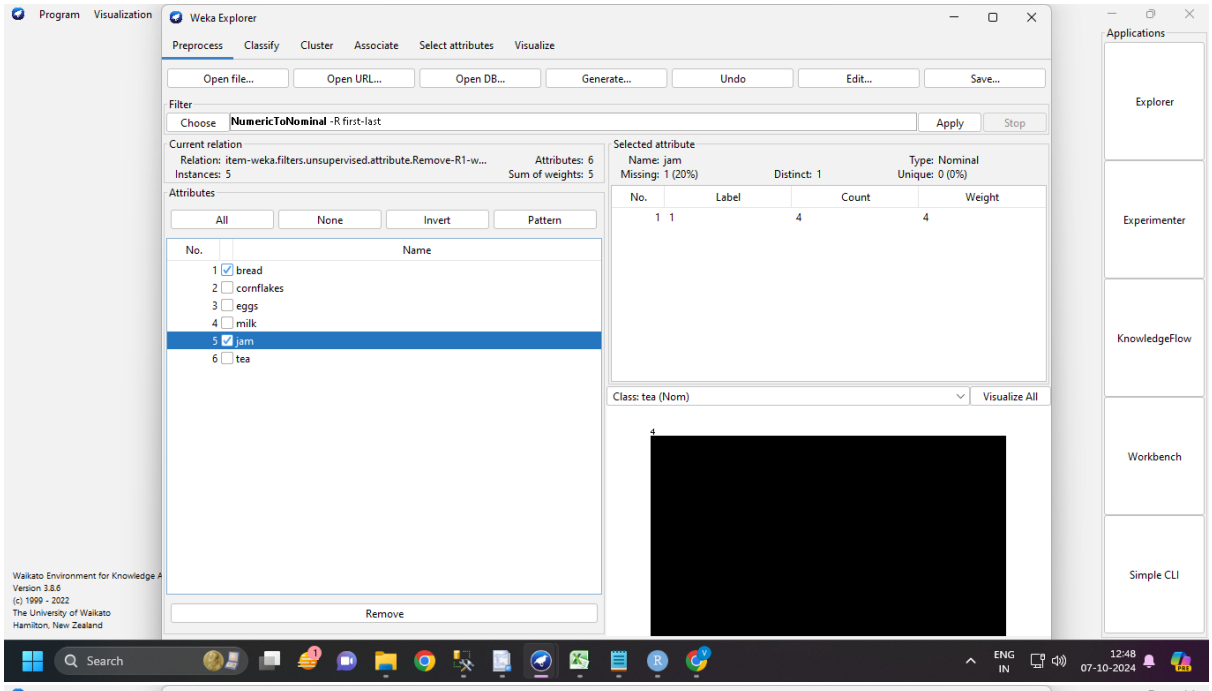
07-10-2024


Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Open file... Open URL... Open DB... Generate... Undo Edit... Save...
Filter
Choose NumericToNominal -R first-last
Apply Stop
Current relation
Relation: item-weka.filters.unsupervised.attribute.Remove-R1-w...
Instances: 5
Attributes: 6
Sum of weights: 5
Attributes
All None Invert Pattern
No. Name
1 bread
2 cornflakes
3 eggs
4 milk
5 jam
6 tea
Remove
Selected attribute
Name: jam
Missing: 1 (20%)
Distinct: 1
Type: Nominal
Unique: 0 (0%)
No. Label Count Weight
1 1 4 4
Class: tea (Nom)
Visualize All
4
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
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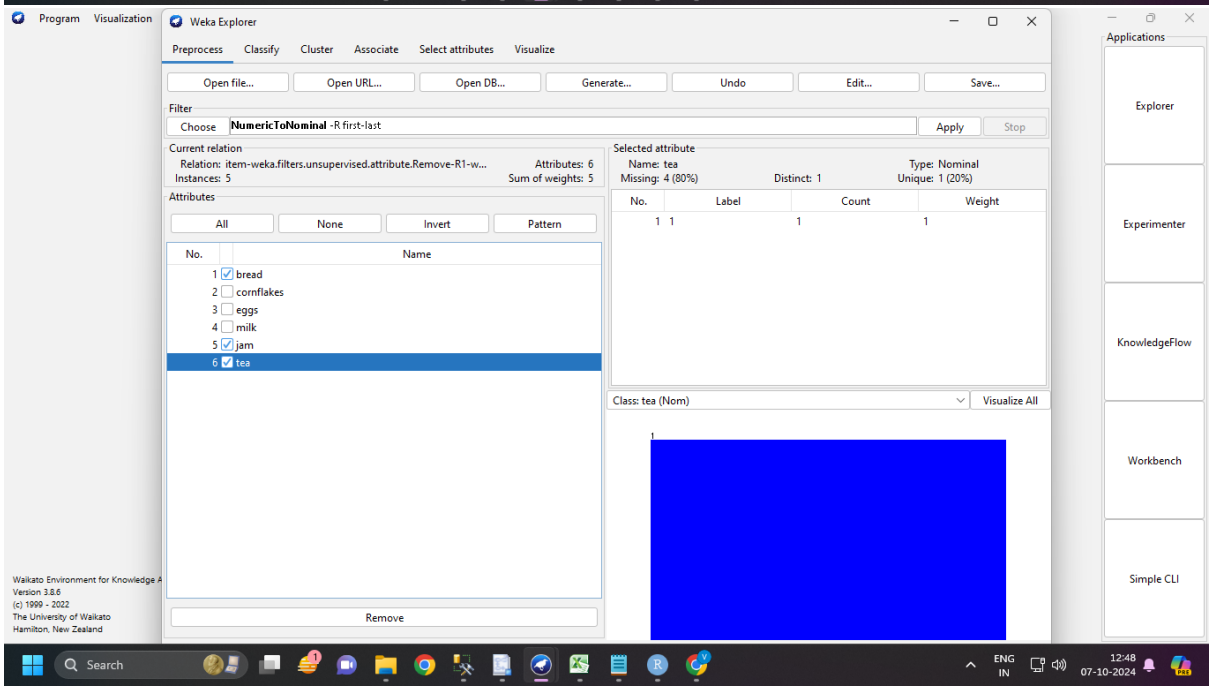
ENG
IN
12:48
07-10-2024


Program Visualization
Weka Explorer
Preprocess Classify Cluster Associate Select attributes Visualize
Open file... Open URL... Open DB... Generate... Undo Edit... Save...
Filter
Choose NumericToNominal -R first-last
Apply Stop
Current relation
Relation: item-weka.filters.unsupervised.attribute.Remove-R1-w...
Instances: 5
Attributes: 6
Sum of weights: 5
Attributes
All None Invert Pattern
No. Name
1 bread
2 cornflakes
3 eggs
4 milk
5 jam
6 tea
Remove
Selected attribute
Name: tea
Missing: 4 (80%)
Distinct: 1
Type: Nominal
Unique: 1 (20%)
No. Label Count Weight
1 1 1 1
Class: tea (Nom)
Visualize All
1
Applications
Explorer
Experimenter
KnowledgeFlow
Workbench
Simple CLI
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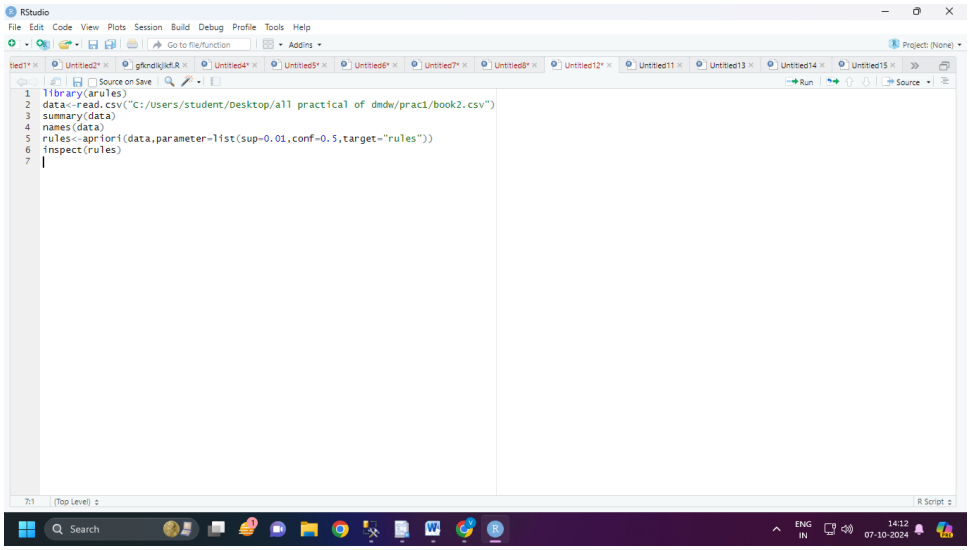
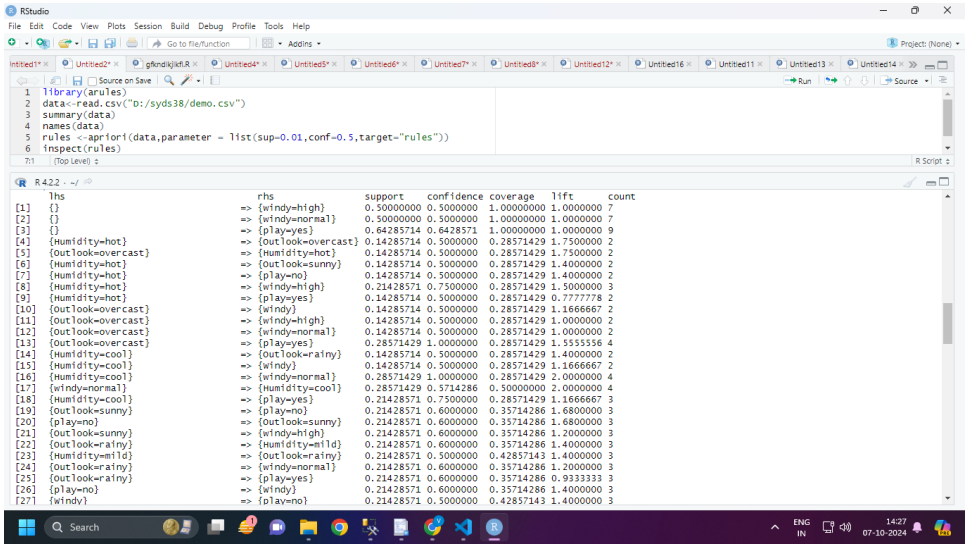
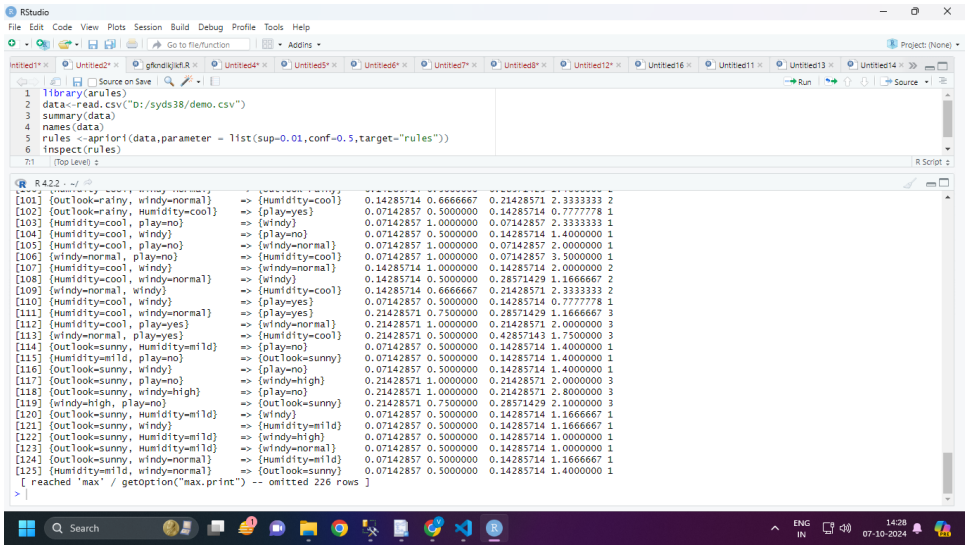
Search
ENG
IN
12:48
07-10-2024

Practical No : 9

Aim : Implement association mining.







Practical No : 10

Aim : Pagerank algorithms for linked analysis using python.