Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Experiment - 5

Programme	:	B.Tech. CSE AI & ML	Semester	:	Winter 2023-24
Course Title	:	Internet of Things Lab	Code	:	BECE352E
			Slot	:	L23-24
Register Number	:	21BAI1106	Name	:	Ojas Patil
Faculty (s)	:	Dr. Manimaran P	Date	:	13th April 2024

AIM

To perform Unsupervised and Supervised Machine Learning on the Knime Analytics Platform.

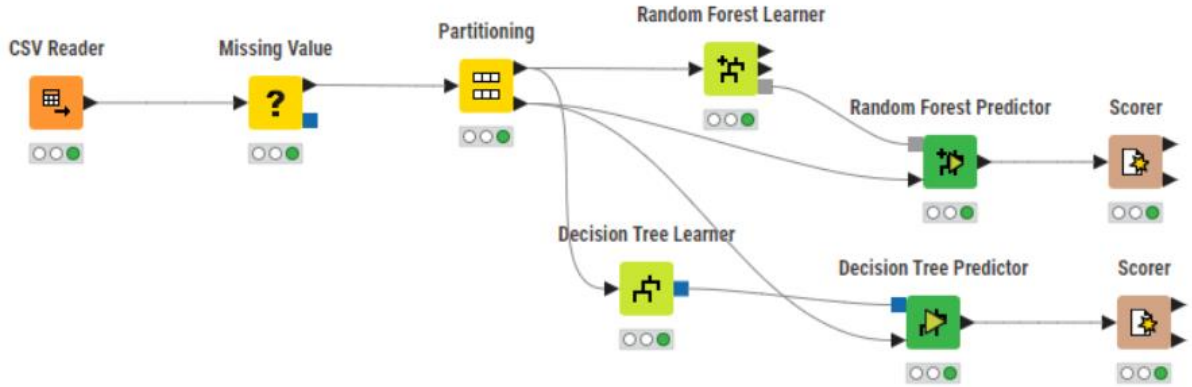
Steps to Follow

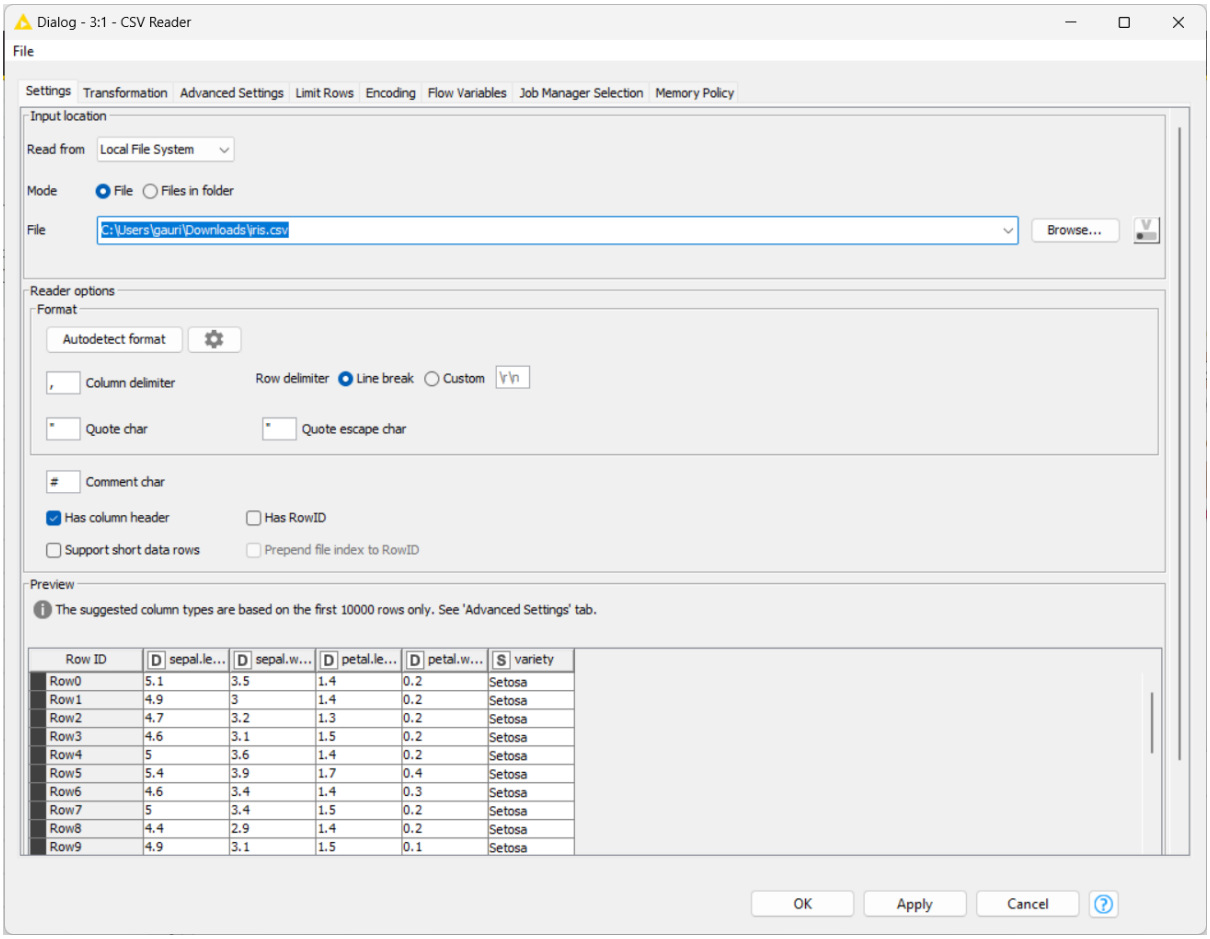
Import the Sales Dataset

1. Download and Launch the Kmine Analytics Application.
2. Download data and create new workflow.
3. Drag and drop CSV file into the workbench editor.
4. Filter data with the Column Filter node.
5. Exclude "unknown" values with the Row Filter node.
6. Visualize your data with Stacked Area Chart & Pie Chart.
7. Execute and open output visualization.

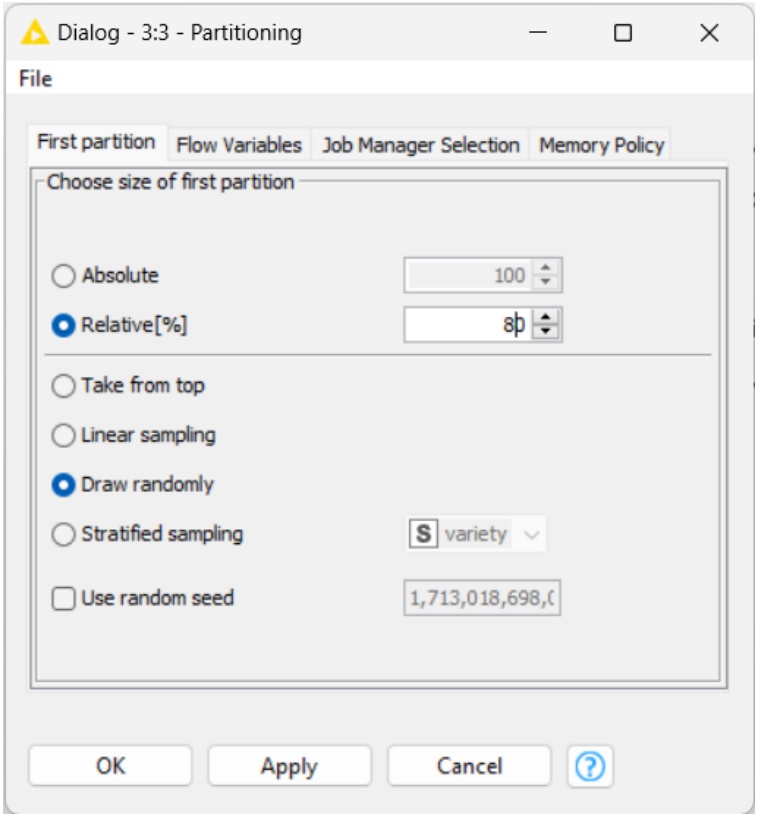
Now Import the Iris Dataset and perform the above operations.

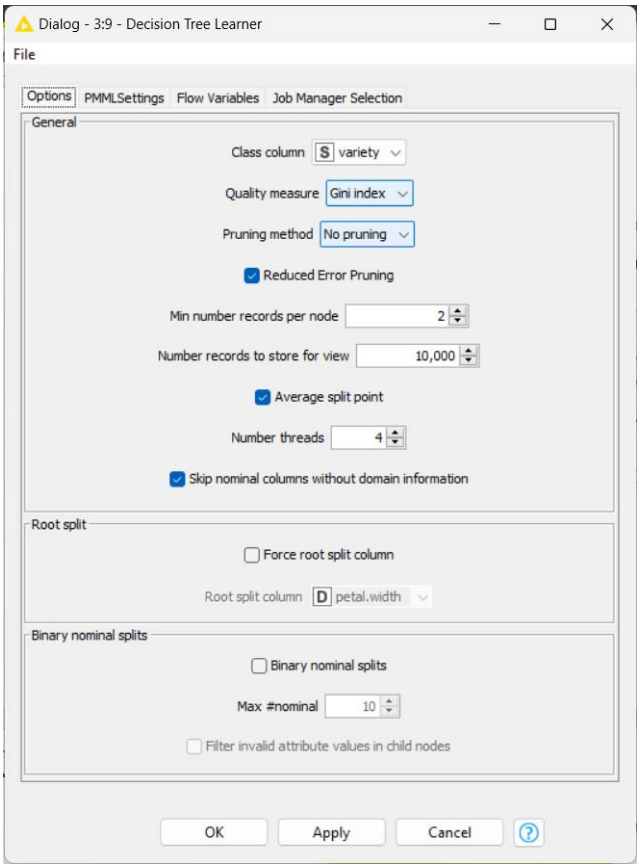
Workflow Screenshots for Supervised Learning

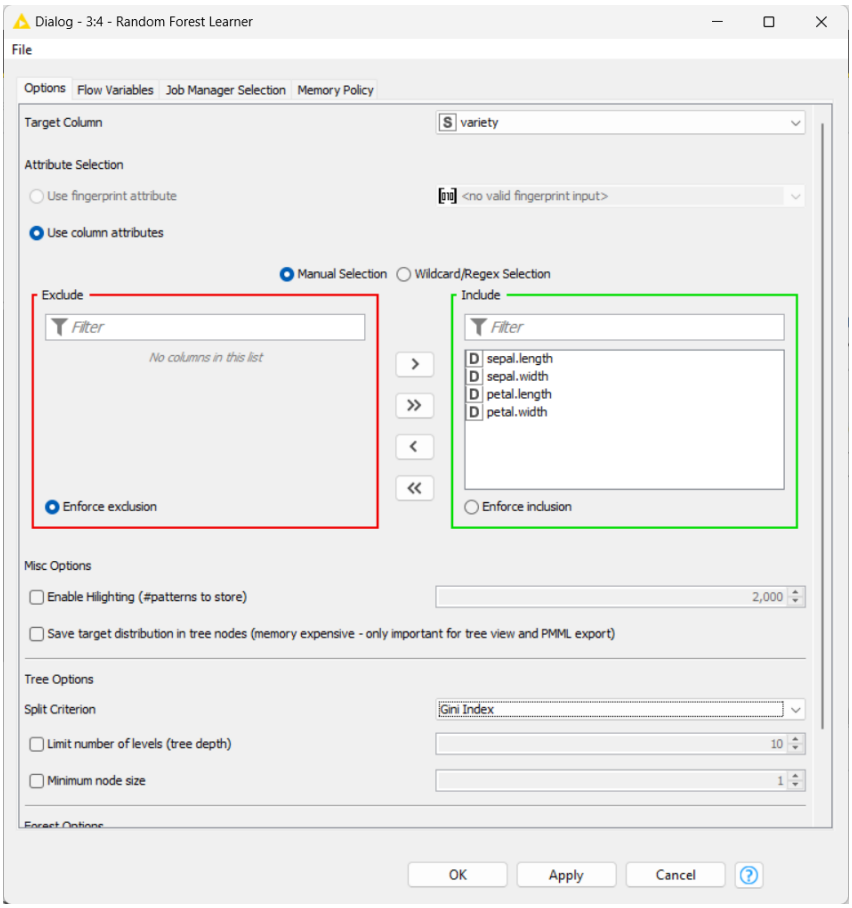




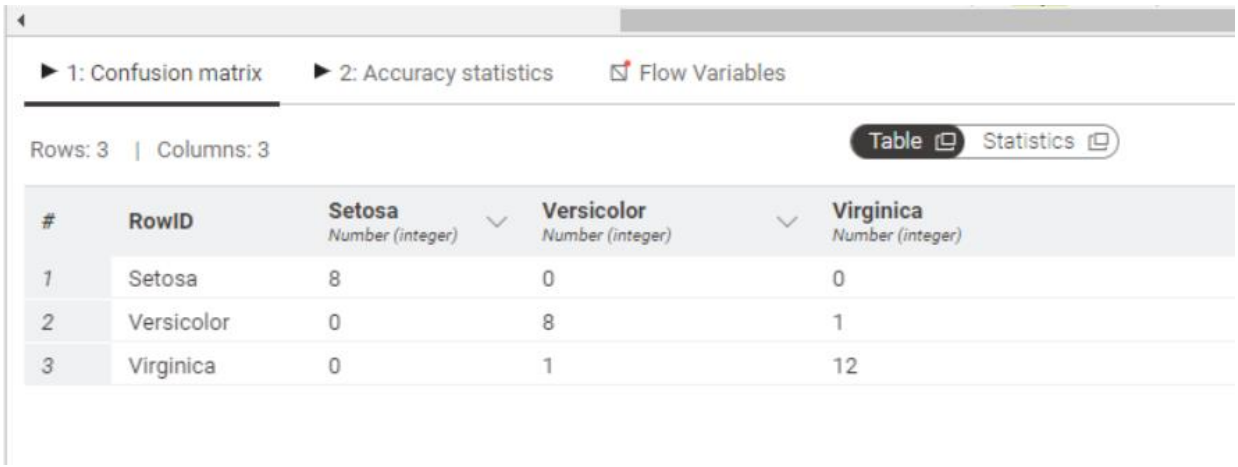
Row ID	sepal.le...	sepal.w...	petal.le...	petal.w...	variety
Row0	5.1	3.5	1.4	0.2	Setosa
Row1	4.9	3	1.4	0.2	Setosa
Row2	4.7	3.2	1.3	0.2	Setosa
Row3	4.6	3.1	1.5	0.2	Setosa
Row4	5	3.6	1.4	0.2	Setosa
Row5	5.4	3.9	1.7	0.4	Setosa
Row6	4.6	3.4	1.4	0.3	Setosa
Row7	5	3.4	1.5	0.2	Setosa
Row8	4.4	2.9	1.4	0.2	Setosa
Row9	4.9	3.1	1.5	0.1	Setosa


Dialog - 3:3 - Partitioning
File
First partition
Flow Variables
Job Manager Selection
Memory Policy
Choose size of first partition
Absolute
100
Relative[%]
80
Take from top
Linear sampling
Draw randomly
Stratified sampling
S variety
Use random seed
1,713,018,698,(
OK
Apply
Cancel


Dialog - 3:9 - Decision Tree Learner
File
Options
PMMLSettings
Flow Variables
Job Manager Selection
General
Class column
S variety
Quality measure
Gini index
Pruning method
No pruning
Reduced Error Pruning
Min number records per node
2
Number records to store for view
10,000
Average split point
Number threads
4
Skip nominal columns without domain information
Root split
Force root split column
Root split column
D petal.width
Binary nominal splits
Binary nominal splits
Max #nominal
10
Filter invalid attribute values in child nodes
OK
Apply
Cancel

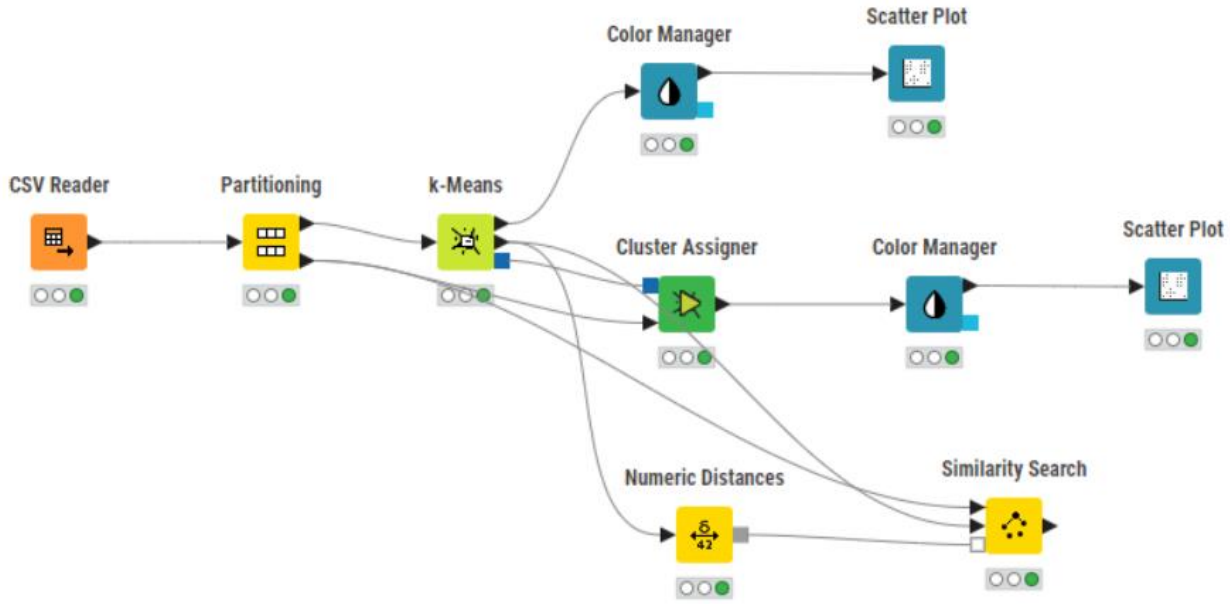


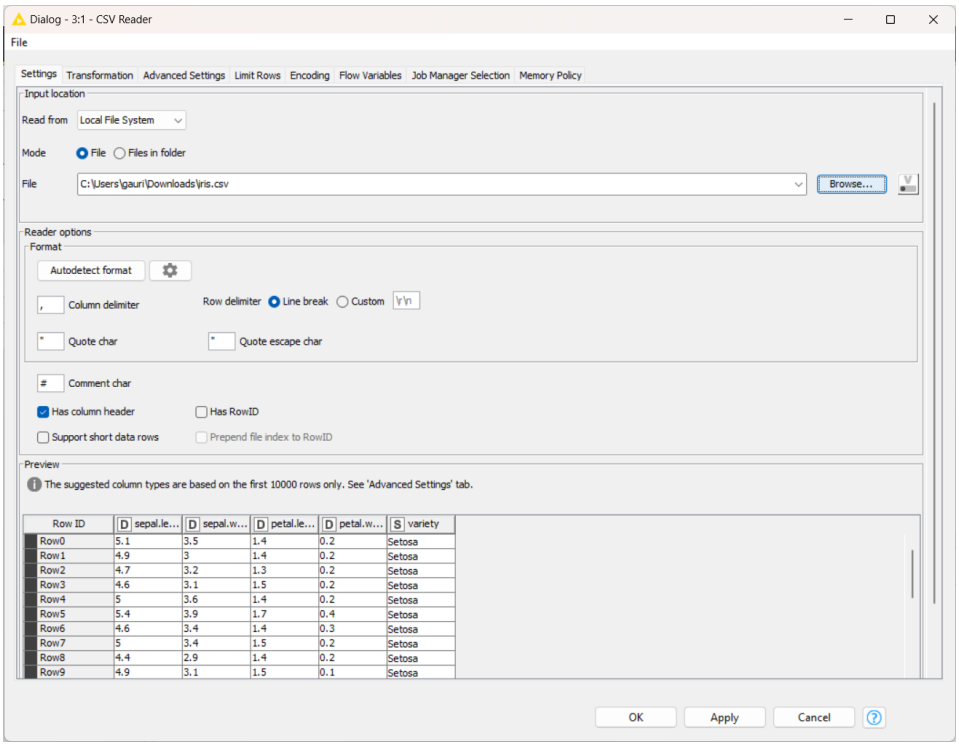
Output for Supervised Learning

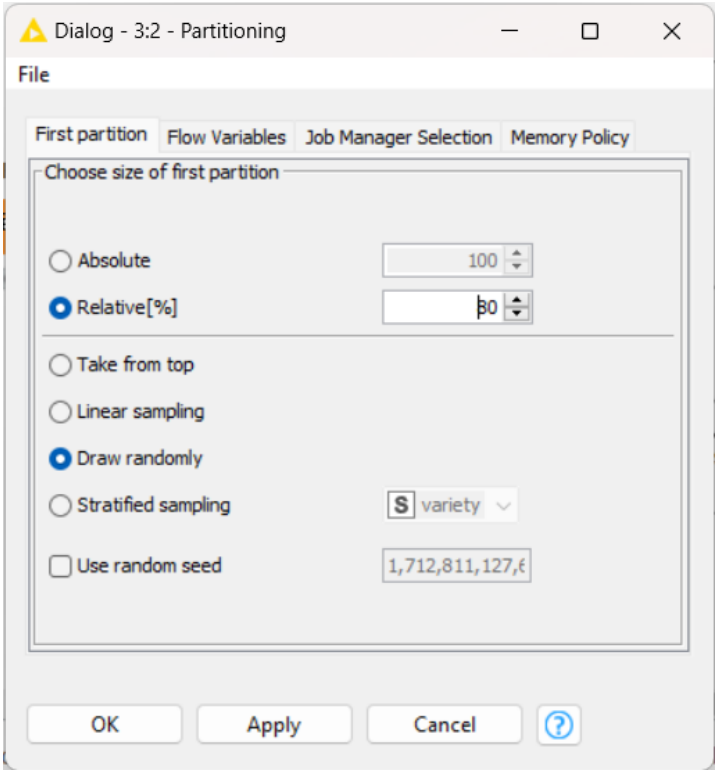


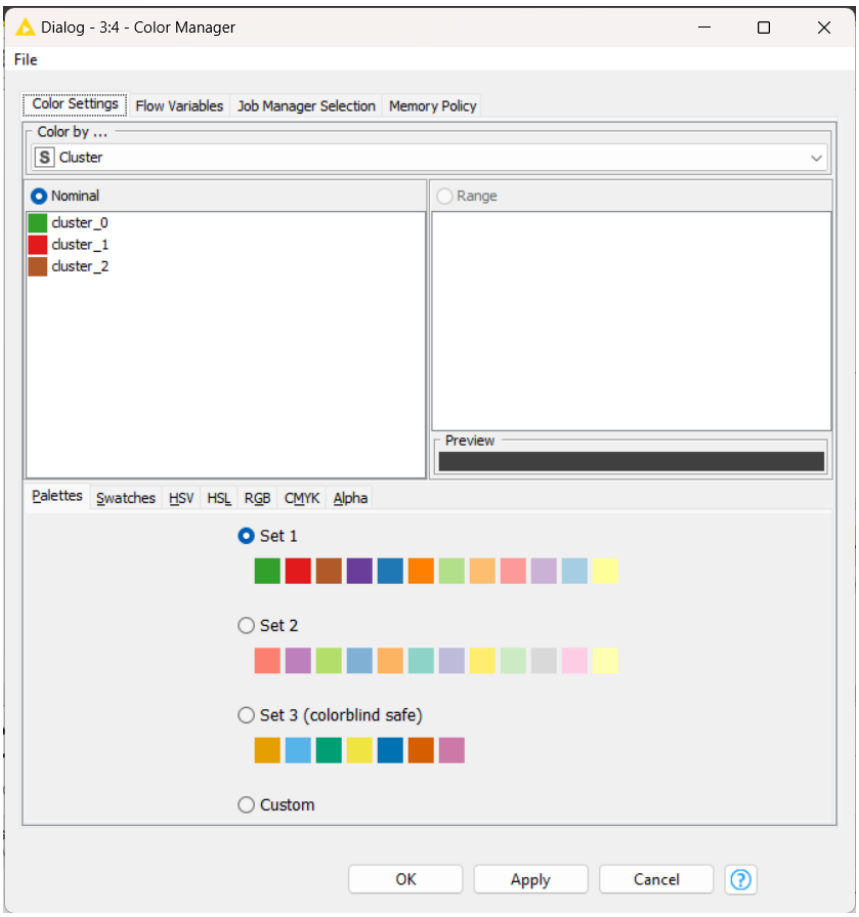
#	RowID	Setosa Number (integer)	Versicolor Number (integer)	Virginica Number (integer)
1	Setosa	8	0	0
2	Versicolor	0	8	1
3	Virginica	0	1	12

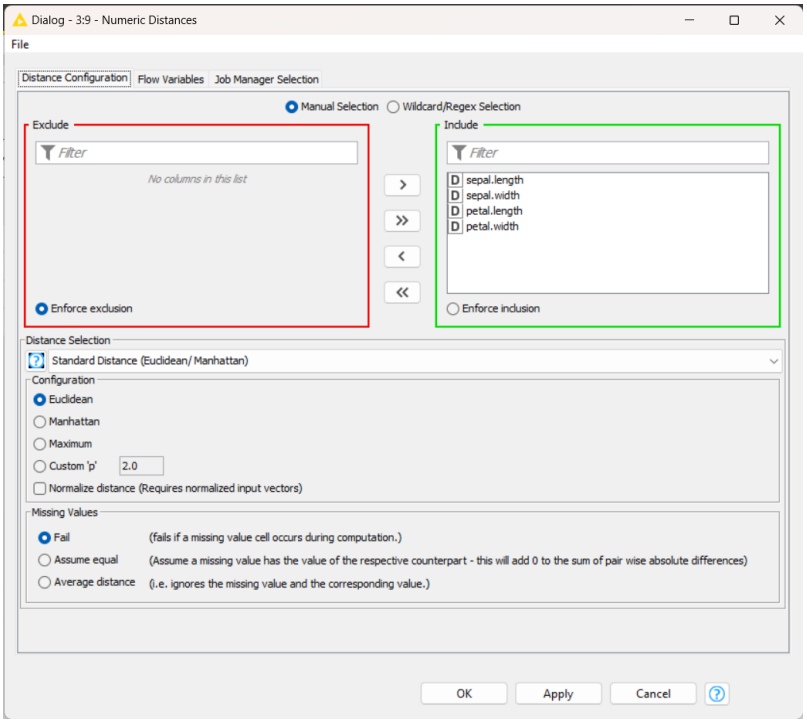
Workflow Screenshots for Unsupervised Learning






Dialog - 3:2 - Partitioning
File
First partition
Flow Variables
Job Manager Selection
Memory Policy
Choose size of first partition
Absolute
100
Relative[%]
80
Take from top
Linear sampling
Draw randomly
Stratified sampling
variety
Use random seed
1,712,811,127,
OK
Apply
Cancel


Dialog - 3:4 - Color Manager
File
Color Settings
Flow Variables
Job Manager Selection
Memory Policy
Color by ...
Cluster
Nominal
Range
cluster_0
cluster_1
cluster_2
Preview
Palettes
Swatches
HSV
HSL
RGB
CMYK
Alpha
Set 1
Set 2
Set 3 (colorblind safe)
Custom
OK
Apply
Cancel



Output for Unsupervised Learning

Results

Thus, we have performed Supervised Machine Learning and Unsupervised Machine Learning with the help of the Knime Application.