Logistic Regression

The logistic regression classification algorithm with LASSO (L1) or ridge (L2) regularization.

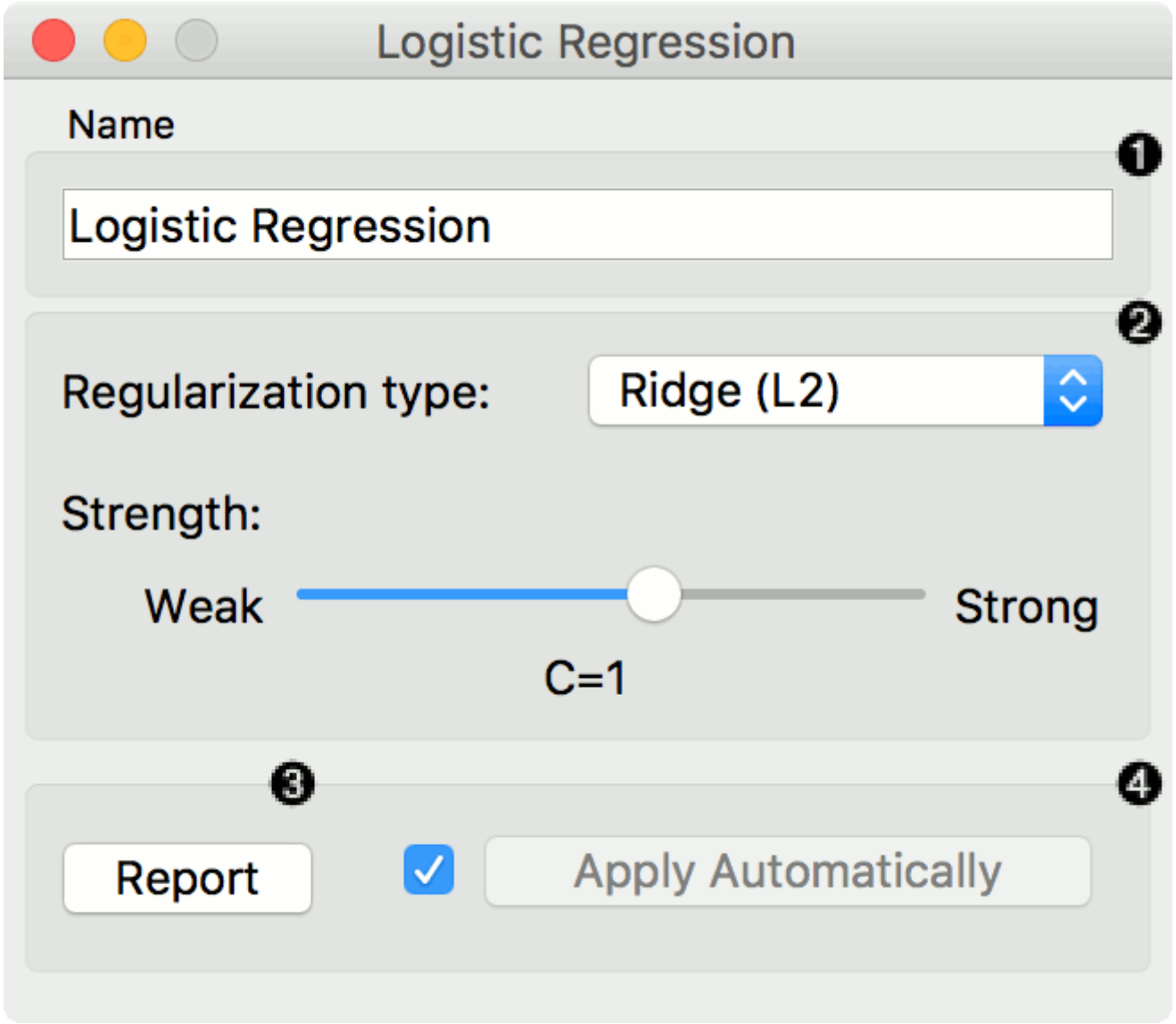
Inputs

- Data: input dataset
- Preprocessor: preprocessing method(s)

Outputs

- Learner: logistic regression learning algorithm
- Model: trained model
- Coefficients: logistic regression coefficients

Logistic Regression learns a Logistic Regression model from the data. It only works for classification tasks.

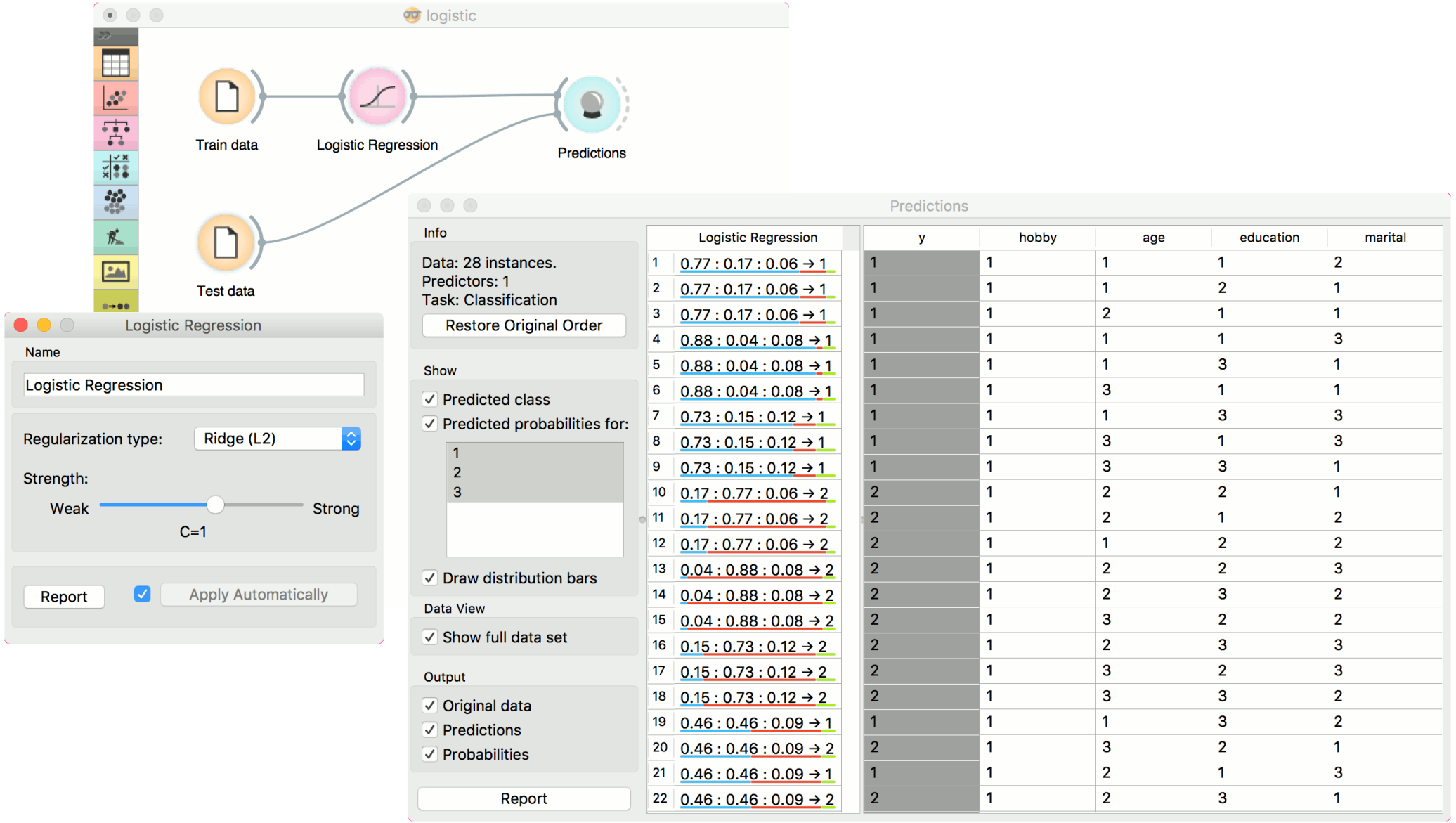


1. A name under which the learner appears in other widgets. The default name is “Logistic Regression”.
2. Regularization type (either L1 or L2). Set the cost strength (default is C=1).
3. Press *Apply* to commit changes. If *Apply Automatically* is ticked, changes will be communicated automatically.

Example

The widget is used just as any other widget for inducing a classifier. This is an example demonstrating prediction results with logistic regression on the *hayes-roth* dataset. We first load *hayes-roth_learn* in the File widget and pass the data to **Logistic Regression**. Then we pass the trained model to Predictions.

Now we want to predict class value on a new dataset. We load *hayes-roth_test* in the second **File** widget and connect it to **Predictions**. We can now observe class values predicted with **Logistic Regression** directly in **Predictions**.



	Logistic Regression	y	hobby	age	education	marital
1	0.77 : 0.17 : 0.06 → 1	1	1	1	1	2
2	0.77 : 0.17 : 0.06 → 1	1	1	1	2	1
3	0.77 : 0.17 : 0.06 → 1	1	1	2	1	1
4	0.88 : 0.04 : 0.08 → 1	1	1	1	1	3
5	0.88 : 0.04 : 0.08 → 1	1	1	1	3	1
6	0.88 : 0.04 : 0.08 → 1	1	1	3	1	1
7	0.73 : 0.15 : 0.12 → 1	1	1	1	3	3
8	0.73 : 0.15 : 0.12 → 1	1	1	3	1	3
9	0.73 : 0.15 : 0.12 → 1	1	1	3	3	1
10	0.17 : 0.77 : 0.06 → 2	2	1	2	2	1
11	0.17 : 0.77 : 0.06 → 2	2	1	2	1	2
12	0.17 : 0.77 : 0.06 → 2	2	1	1	2	2
13	0.04 : 0.88 : 0.08 → 2	2	1	2	2	3
14	0.04 : 0.88 : 0.08 → 2	2	1	2	3	2
15	0.04 : 0.88 : 0.08 → 2	2	1	3	2	2
16	0.15 : 0.73 : 0.12 → 2	2	1	2	3	3
17	0.15 : 0.73 : 0.12 → 2	2	1	3	2	3
18	0.15 : 0.73 : 0.12 → 2	2	1	3	3	2
19	0.46 : 0.46 : 0.09 → 1	1	1	1	3	2
20	0.46 : 0.46 : 0.09 → 2	2	1	3	2	1
21	0.46 : 0.46 : 0.09 → 1	1	1	2	1	3
22	0.46 : 0.46 : 0.09 → 2	2	1	2	3	1