Classification_learn operator

This operator is used to create a classifier. Therefore, the result is a stream of classifiers (this is an own datatype!)

Parameter

- CLASS: The attribute that should be used as the class (the
- NOMINALS: For nominal classifiers, this list provides the possible values, because some algorithms have to know them in advance
- LEARNER: The algorithm that is used to construct the classifier
  - Currently implemented: Weka (which in turn has further algorithms, see above)
- ALGORITHM: A set of options to set up the algorithm

Example

This example uses the weka-clusterer. The weka-clusterer should use the "simplekmeans" algorithm. the arguments to set up the weka-simplekmeans is "-N 3".

Operator

```
1   learned = CLASSIFICATION_LEARN({
2               class='attack',
3               nominals = ['attack'=['back', 'smurf', 'spy']],
4               learner = 'weka',
5               algorithm =
6                   [
7                   'model'='J48'
8                   ]
9
10              }, inputoperator)
```

For weka, there are currently the following algorithms that can be used as the "model". Further details and possible arguments can be found in the Weka Docs

Classification (nominal values):

- J48 (an adapted version of C4.5, a decision tree induction)
- NaiveBayes
- DecisionTable
- SMO (Sequential Minimal Optimization)

Regression (continuous values):

- LINEAR-REGRESSION
- SIMPLE_LINEAR-REGRESSION
- LOGISTIC
- SIMPLE-LOGISTIC
- GAUSSIAN-PROCESSES
- SMO-Regression (a regression version of SMO)
- MULTILAYER-PERCEPTRON