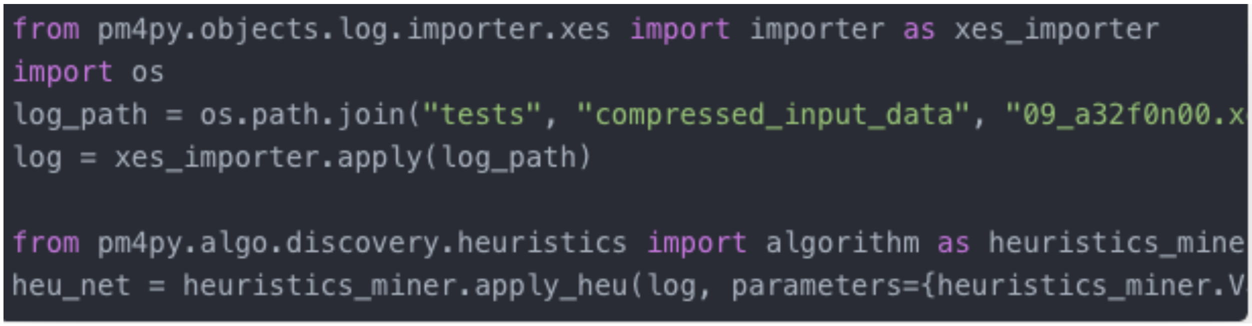
Heuristic Miner.

Heuristics Miner is an algorithm that acts on the Directly-Follows Graph, providing way to handle with noise and to find common constructs (dependency between two activities, AND). The output of the Heuristics Miner is an Heuristics Net, so an object that contains the activities and the relationships between them. The Heuristics Net can be then converted into a Petri net. The paper can be visited by clicking on the upcoming link: this link).
It is possible to obtain a Heuristic Net and a Petri Net.



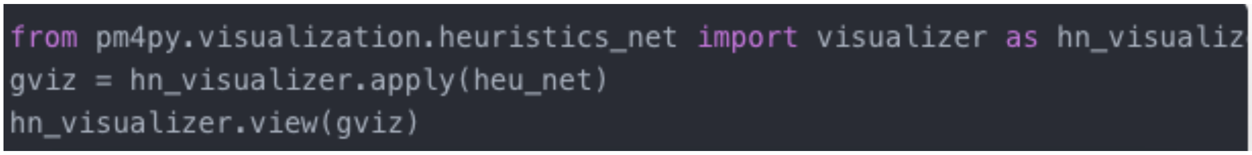
```
from pm4py.objects.log.importer.xes import importer as xes_importer
import os
log_path = os.path.join("tests", "compressed_input_data", "09_a32f0n00.x
log = xes_importer.apply(log_path)

from pm4py.algo.discovery.heuristics import algorithm as heuristics_mine
heu_net = heuristics_miner.apply_heu(log, parameters={heuristics_miner.V
```

Figure 1

To apply the Heuristics Miner to discover an Heuristics Net, it is necessary to import a log. Then, a Heuristic Net can be found.

Parameter Name	Description
DEPENDENCY_THRESH	dependency threshold of the Heuristics Miner (default: 0.5)
AND_MEASURE_THRESH	AND measure threshold of the Heuristics Miner (default: 0.65)
MIN_ACT_COUNT	minimum number of occurrences of an activity to be considered (default: 1)
MIN_DFG_OCCURRENCES	minimum number of occurrences of an edge to be considered (default: 1)
DFG_PRE_CLEANING_NOISE_THRESH	cleaning threshold of the DFG (in order to remove weaker edges, default 0.05)
LOOP_LENGTH_TWO_THRESH	thresholds for the loops of length 2

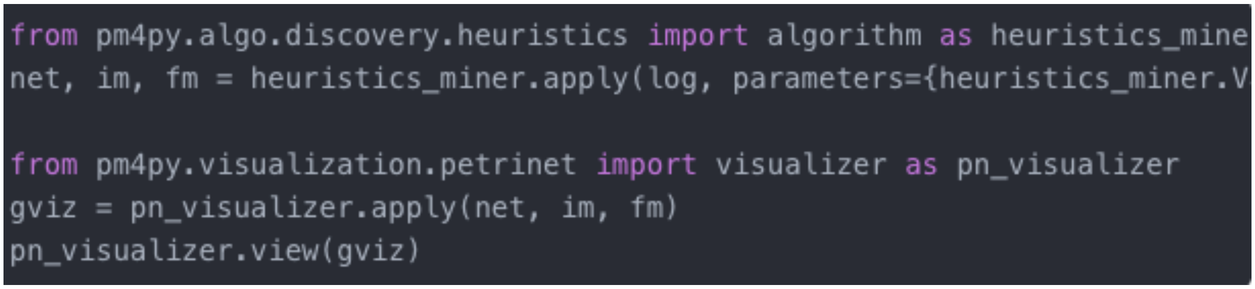
To visualize the Heuristic Net, code is also provided on the below i.e, figure 2 side.



```
from pm4py.visualization.heuristics_net import visualizer as hn_visualiz
gviz = hn_visualizer.apply(heu_net)
hn_visualizer.view(gviz)
```

Figure 2

To obtain a Petri Net that is based on the Heuristics Miner, the code on the below that is figure 3 side can be used. Also this Petri Net can be visualized.



```
from pm4py.algo.discovery.heuristics import algorithm as heuristics_mine
net, im, fm = heuristics_miner.apply(log, parameters={heuristics_miner.V

from pm4py.visualization.petrinet import visualizer as pn_visualizer
gviz = pn_visualizer.apply(net, im, fm)
pn_visualizer.view(gviz)
```

Figure 3