

Filtering on numeric attribute values.

Filtering on numeric attribute values provide options that are similar to filtering on string attribute values (that we already considered)

```
import os
from pm4py.objects.log.importer.xes import importer as xes_importer
log = xes_importer.apply(os.path.join("tests", "input_data", "roadtraffi

from pm4py.algo.filtering.log.attributes import attributes_filter
filtered_log_events = attributes_filter.apply_numeric_events(log, 34, 36
                                                             parameters={attributes_filt

filtered_log_cases = attributes_filter.apply_numeric(log, 34, 36,
                                                    parameters={attributes_filt

filtered_log_cases = attributes_filter.apply_numeric(log, 34, 500,
                                                    parameters={attributes_filt
                                                            attributes_filt
                                                            attributes_filt
```

Figure -1

First, we import, the log. Subsequently, we want to keep only the events satisfying an amount comprised between 34 and 36. An additional filter aims to to keep only cases with at least an event satisfying the specified amount. The filter on cases provide the option to specify up to two attributes that are checked on the events that shall satisfy the numeric range. For example, if we are interested in cases having an event with activity Add penalty that has an amount between 34 and 500, a code snippet is also provided.

```

import os
import pandas as pd
from pm4py.objects.log.util import dataframe_utils
df = pd.read_csv(os.path.join("tests", "input_data", "roadtraffic100trac
df = dataframe_utils.convert_timestamp_columns_in_df(df)

from pm4py.algo.filtering.pandas.attributes import attributes_filter
filtered_df_events = attributes_filter.apply_numeric_events(df, 34, 36,
                                                             parameters={attributes_filt

filtered_df_cases = attributes_filter.apply_numeric(df, 34, 36,
                                                    parameters={attributes_filt

filtered_df_cases = attributes_filter.apply_numeric(df, 34, 500,
                                                    parameters={attributes_filt
                                                            attributes_filt
                                                            attributes_filt

```

Figure -2

The former method can also be applied on dataframes.