```
import pandas
import pmdpy
import pandas as pd
import os
import numpy as np
```

```
import pandas as pd
event_log = pmdpy.format_dataframe(pd.read_csv('C:/Users/ALI/Downloads/Twerlo/training-example.csv', sep=';'), case_id='case_id')
activity_key='activity', timestamp_key='timestamp')
path = os.path.join('C:/Users/ALI/Downloads/Twerlo/training-example.csv')
```

```
event_log
```

	case_id	activity	timestamp	code	resource	caseconceptname	conceptname	time:timestamp	@@index
0	1	register request	2016-12-02 10:00:00+00:00	100	Mike	1	register request	2016-12-02 10:00:00+00:00	0
1	1	examine thoroughly	2016-12-02 11:00:00+00:00	400	Sara	1	examine thoroughly	2016-12-02 11:00:00+00:00	1
10	1	check ticket	2017-01-05 12:00:+00:00	150	Mike	1	check ticket	2017-01-05 12:00:+00:00	10
11	1	decide	2017-01-06 10:00:+00:00	200	Sara	1	decide	2017-01-06 10:00:+00:00	11
100	1	reject request	2017-01-12 10:00:+00:00	250	Mike	1	reject request	2017-01-12 10:00:+00:00	100
2	2	register request	2016-12-02 11:00:+00:00	100	Mike	2	register request	2016-12-02 11:00:+00:00	2
10	2	check ticket	2016-12-05 11:00:+00:00	150	Mike	2	check ticket	2016-12-05 11:00:+00:00	10
11	2	examine casually	2016-12-05 12:00:+00:00	400	Sara	2	examine casually	2016-12-05 12:00:+00:00	11
12	2	decide	2016-12-05 13:00:+00:00	200	Mike	2	decide	2016-12-05 13:00:+00:00	12
20	2	pay compensation	2016-12-06 10:00:+00:00	250	Mike	2	pay compensation	2016-12-06 10:00:+00:00	20
3	3	register request	2016-12-03 10:00:+00:00	100	Sara	3	register request	2016-12-03 10:00:+00:00	3
10	3	examine casually	2016-12-06 10:00:+00:00	400	Mike	3	examine casually	2016-12-06 10:00:+00:00	10
11	3	check ticket	2016-12-06 11:00:+00:00	150	Sara	3	check ticket	2016-12-06 11:00:+00:00	11
12	3	decide	2016-12-06 12:00:+00:00	200	Sara	3	decide	2016-12-06 12:00:+00:00	12
4	4	register request	2016-12-04 11:00:+00:00	100	Mike	4	register request	2016-12-04 11:00:+00:00	4
10	4	examine casually	2016-12-07 11:00:+00:00	400	Sara	4	examine casually	2016-12-07 11:00:+00:00	10
11	4	check ticket	2016-12-07 12:00:+00:00	150	Mike	4	check ticket	2016-12-07 12:00:+00:00	11
12	4	decide	2016-12-07 13:00:+00:00	200	Mike	4	decide	2016-12-07 13:00:+00:00	12
5	5	register request	2016-12-05 10:00:+00:00	100	Sara	5	register request	2016-12-05 10:00:+00:00	5
10	5	examine casually	2016-12-08 10:00:+00:00	400	Mike	5	examine casually	2016-12-08 10:00:+00:00	10
11	5	check ticket	2016-12-08 11:00:+00:00	150	Sara	5	check ticket	2016-12-08 11:00:+00:00	11
12	5	decide	2016-12-08 12:00:+00:00	200	Sara	5	decide	2016-12-08 12:00:+00:00	12
6	6	register request	2016-12-06 11:00:+00:00	100	Mike	6	register request	2016-12-06 11:00:+00:00	6
10	6	examine casually	2016-12-09 11:00:+00:00	400	Sara	6	examine casually	2016-12-09 11:00:+00:00	10
11	6	check ticket	2016-12-09 12:00:+00:00	150	Mike	6	check ticket	2016-12-09 12:00:+00:00	11
12	6	decide	2016-12-09 13:00:+00:00	200	Mike	6	decide	2016-12-09 13:00:+00:00	12
7	7	register request	2016-12-07 10:00:+00:00	100	Sara	7	register request	2016-12-07 10:00:+00:00	7
10	7	examine casually	2016-12-10 10:00:+00:00	400	Mike	7	examine casually	2016-12-10 10:00:+00:00	10
11	7	check ticket	2016-12-10 11:00:+00:00	150	Sara	7	check ticket	2016-12-10 11:00:+00:00	11
12	7	decide	2016-12-10 12:00:+00:00	200	Sara	7	decide	2016-12-10 12:00:+00:00	12
8	8	register request	2016-12-08 11:00:+00:00	100	Mike	8	register request	2016-12-08 11:00:+00:00	8
10	8	examine casually	2016-12-11 11:00:+00:00	400	Sara	8	examine casually	2016-12-11 11:00:+00:00	10
11	8	check ticket	2016-12-11 12:00:+00:00	150	Mike	8	check ticket	2016-12-11 12:00:+00:00	11
12	8	decide	2016-12-11 13:00:+00:00	200	Mike	8	decide	2016-12-11 13:00:+00:00	12
9	9	register request	2016-12-09 10:00:+00:00	100	Sara	9	register request	2016-12-09 10:00:+00:00	9
10	9	examine casually	2016-12-12 10:00:+00:00	400	Mike	9	examine casually	2016-12-12 10:00:+00:00	10
11	9	check ticket	2016-12-12 11:00:+00:00	150	Sara	9	check ticket	2016-12-12 11:00:+00:00	11
12	9	decide	2016-12-12 12:00:+00:00	200	Sara	9	decide	2016-12-12 12:00:+00:00	12
20	9	pay compensation	2016-12-13 10:00:+00:00	250	Mike	9	pay compensation	2016-12-13 10:00:+00:00	20

```
#filtered = pmdpy.filter_start_activities(log, 'register request')
```

```
#filtered = pmdpy.filter_end_activities(log, 'pay compensation')
```

```
pd.set_option('display.max_rows', 20)
#filtered = pmdpy.filter_trace_length_bounds(log, (2, 10))
#filtered = pmdpy.filter_time_period(log, ("2016-12-01 00:00:00+00:00", "2016-12-31 00:00:00+00:00"), True, True)
#filtered = pmdpy.filter_attribute_values(log, 'concept:name', ['register request', 'pay compensation'], True, True)
#filtered = pmdpy.filter_attribute_values(log, 'time:timestamp', ['2016-12-02 11:00:+00:00'], True, True)
#filtered = pmdpy.filter_attribute_values(log, 'resource', ['Mike'], True, True)
#filtered = pmdpy.filter_attribute_values(log, 'time:timestamp', ['2016-12-02 11:00:+00:00
```