UNIVERSITY OF LEEDS School of Computing	**EXPERIMENT DOCUMENTATION** **Experiment title:** Event log creation of cancer admissions **Researcher's name:** Angelina Kurniati	**Date of experiment** 17/05/2017 **Experiment code** M3C-ADM001

Area of investigation

This experiment is to create an event log of cancer patient records from the admissions table of the MIMIC-III database. The format is [case_id, activity, timestamp].
All patients who diagnosed with cancer-related diagnose code, at least once, will be included.

Data source

The admissions table in the MIMIC-III database. The ADMISSIONS table gives information regarding a patient's admission to the hospital.

Research question

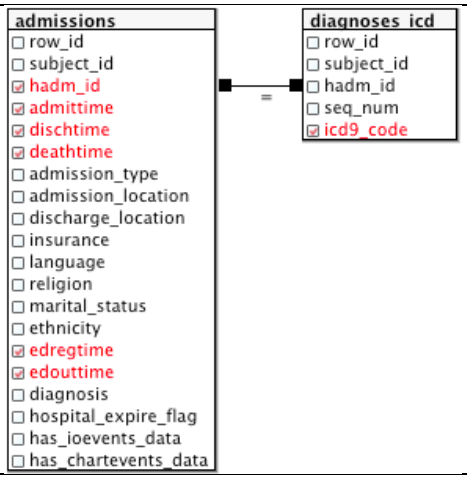
Is the admissions table in the MIMIC-III database can be used for process mining of cancer patient admissions?

Hypothesis

The admissions table can be used as it provides at least minimum requirements for process mining, which are case_id, activity, and timestamp.

Method

1) **Extract** the MIMIC-III database in PostgreSQL by selecting [admittime, dischtime, edregtime, edouttime, deathtime] of cancer patient admissions [icd9_codes 140x-239x].
2) **Tranform** into event log with [case_id, activity, timestamp] format.
   case_id = subject_id/ hadm_id
   activity = {admission, discharge, ED reg, ED out, death}
   timestamp = {admittime, dischtime, edregtime, edouttime, deathtime}
2) Save as .csv file
3) **Load** into ProM



Results

This resulted in 35843 rows

Data Output | Explain | Messages | History

	hadm_id integer	activity character varying(200)	charttime timestamp(0) without time zone
1	100006	ED registration	2108-04-06 11:39:00
2	100006	admission	2108-04-06 15:49:00
3	100006	ED out	2108-04-06 17:56:00
4	100006	discharge	2108-04-18 17:18:00
5	100010	admission	2109-12-10 07:15:00
6	100010	discharge	2109-12-14 16:45:00
7	100018	admission	2176-08-29 10:30:00
8	100018	discharge	2176-09-06 17:13:00
9	100020	ED registration	2142-11-29 21:59:00
10	100020	admission	2142-11-30 01:53:00

DOS | Ln 1, Col 21, Ch 21 | 35843 rows. | 1.2 secs

Discussion

The admissions table contains minimum required columns for process mining, with additional step of creating transactional table. The resulted event log would be loaded into ProM in the Stage 2.

Conclusion

Hypothesis proved. The admissions table can be used to create event logs.