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Process Analytics

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Advanced Process Mining

Summer term 2020

Exercise sheet 7

Predictive Process Monitoring

Exercise 1: Sequence encoding

Case ID	Timestamp	Activity	Resource	Pulse	Medication	Gender	Age
1	01.05.20	Admission	ER	40	-	Male	86
1	01.05.20	Surgery	OR	30	Propofol	Male	86
1	01.05.20	CPR	OR	0	Epinephrine	Male	86
1	01.05.20	ToD	OR	0	-	Male	86
2	05.05.20	Admission	ER	60	-	Female	80
2	05.05.20	Surgery	OR	70	Bupivacaine	Female	80
2	05.05.20	Recovery	PACU	55	Saline	Female	80
3	06.05.20	Admission	ER	80	-	Female	75
3	06.05.20	IV Fluids	ER	70	Saline	Female	75
3	06.05.20	Release	Geriatrics	65	-	Female	75
2	10.05.20	Release	Geriatrics	60	Ibuprofen	Female	80

a) In the event log above, identify case and event attributes of the three shown cases.

b) Transform the following event log into an index-based encoded table.

Case ID	Timestamp	Activity	Pulse	Gender	Age
1	01.05.20	Admission	40	Male	86
1	01.05.20	Surgery	30	Male	86
1	01.05.20	CPR	0	Male	86
1	01.05.20	ToD	0	Male	86
2	05.05.20	Admission	60	Female	80
2	05.05.20	Surgery	70	Female	80
2	05.05.20	Recovery	55	Female	80
3	06.05.20	Admission	80	Female	75
3	06.05.20	IV Fluids	70	Female	75
3	06.05.20	Release	65	Female	75
2	10.05.20	Release	60	Female	80

c) Transform the first event log into an aggregation encoded table.

d) Why could it be useful to apply predictive process monitoring in this scenario?