

In-class Activity 2: Throughput Analysis Activity



- *Purpose*
 - *Use a data-driven approach to improve throughput in a factory*
 - *Understand how to group data by a specific condition*
 - *Understand aggregation queries and aggregate operators*
 - *Understand how to join the contents of multiple tables or views*

In-class Activity 2: Throughput Analysis Activity



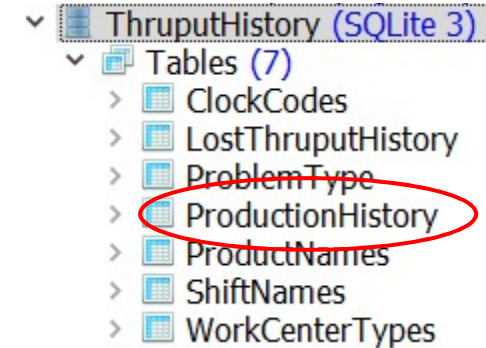
- *Concepts*
 - *Throughput*
 - *The flow of material from input to output over some period of time*
 - *Often expressed as a rate, such as units per hour*
 - *Different types of throughput loss*

Type of loss	Attribution
Yield loss	Scrap
Speed loss	Slower operations
Line transition	Equipment changeovers from producing one product to producing another



Throughput.sqlite

- **Table ProductionHistory**
 - *A log of each product's production by work center, week and shift over a period of time*



Actual transition and production time (minutes) to satisfy the demand

	ProductID	WeekNo	WCType	WorkCenterID	ShiftID	Demand	TransitionMinutesActual	ProductionMinutesActual	ThruputTarget	TransitionTarget
1	P013	1	0	B2	3	3200	30.00	1001.00	200	30
2	P014	1	0	B1	1	3700	30.00	1127.00	200	30
3	P002	1	2	A2	3	3700	60.00			
4	P012	1	1	L4	1	3200	240.00			
5	P011	1	1	L2	1	2500	213.00			
6	P013	1	1	L3	2	3200	172.00			
7	P001	1	2	A1	2	3200	60.00			
8	P004	1	2	A2	2	2500	60.00	923.00	200	60
9	P014	1	1	L1	3	3700	358.00	3372.00	100	120
10	P002	1	0	B2	3	3700	30.00	1131.00	200	30
11	P005	1	2	A2	1	3000	60.00	1108.00	200	60

We would analyze throughput improvement potential by comparing the actual time and target time

Ideal production rate(product units/hour) ← Ideal transition time(minutes)

In-class Activity 2

- *Guidance (see eDimension -> week 2 -> Lecture 3-> ThroughputActivity_2018.pdf)*
- *Before you start, get the answer sheet from me or Shuqin*
- *Once finished, submit the answer sheet to me or Shuqin, who would randomly check your codes*