minimum temerture approach Dtmin = 20 oC

ream Nan	ly Temper	t Temper	mCp	tream Typ	upply Shi	arget Shift
	°C	°C	kW/K		°C	°C
E-101	20	120	1	COLD	30	130
E-102	100	60	2	HOT	90	50
E-103	25	70	2	COLD	35	80
E-104	120	30	2	HOT	110	20

Problem Table & Cascade

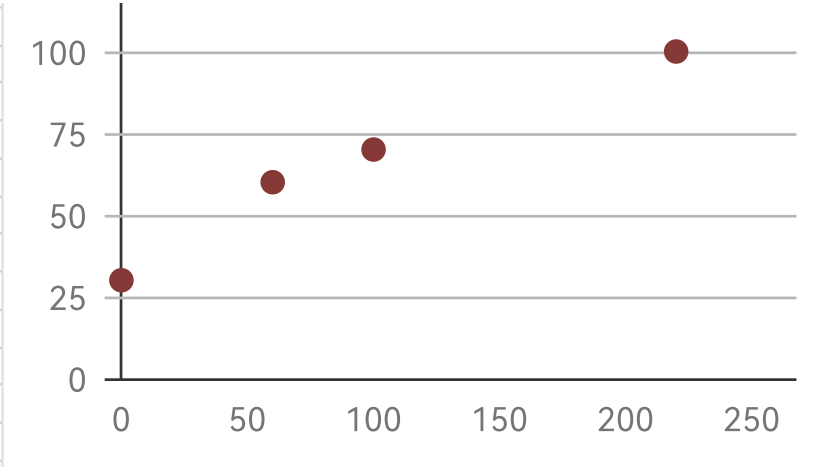
Shift Temperature	Interval	T(i+1)-Ti	mCpnet	dH			Infeasible Cascade		Feasible Cascade	
°C		°C	kW/K	kW						
130							▼	0	▼	20
	1	20	-1.0	-20.0	demand		-20		-20	
110						PINCH	▼	-20	▼	0
	2	20	1.0	20.0	surplus		20		20	
90							▼	0	▼	20
	3	10	3.0	30.0	surplus		30		30	
80							▼	30	▼	50
	4	30	1.0	30.0	surplus		30		30	
50							▼	60	▼	80
	5	15	-1.0	-15.0	demand		-15		-15	
35							▼	45	▼	65
	6	5	1.0	5.0	surplus		5		5	
30							▼	50	▼	70
	7	10	2.0	20.0	surplus		20		20	
20							▼	70	▼	90

Hot Pinch	120	°C
Cold Pinc	100	°C
Min Hot U	20.0	kW
Min Cold	90.0	kW

SINGLE PINCH PROBLEM

Actual Intervals Table

Actual Te	T(i+1)-Ti	CpHot	dHHot	Hot Duty	CpCold	dHCold	Cold Duty
	°C	kW/K	kW	kW	kW/K	kW	kW
120				260			280
	20	2	40		1	20	
100				220			260
	30	4	120		1	30	
70				100			230
	10	4	40		3	30	
60				60			200
	30	2	60		3	90	
30				0			110
	5	0	0		3	15	
25							95
	5	0	0		1	5	
20							90



Then you can connect streams and find the number of exchangers in a way that we did in the class.