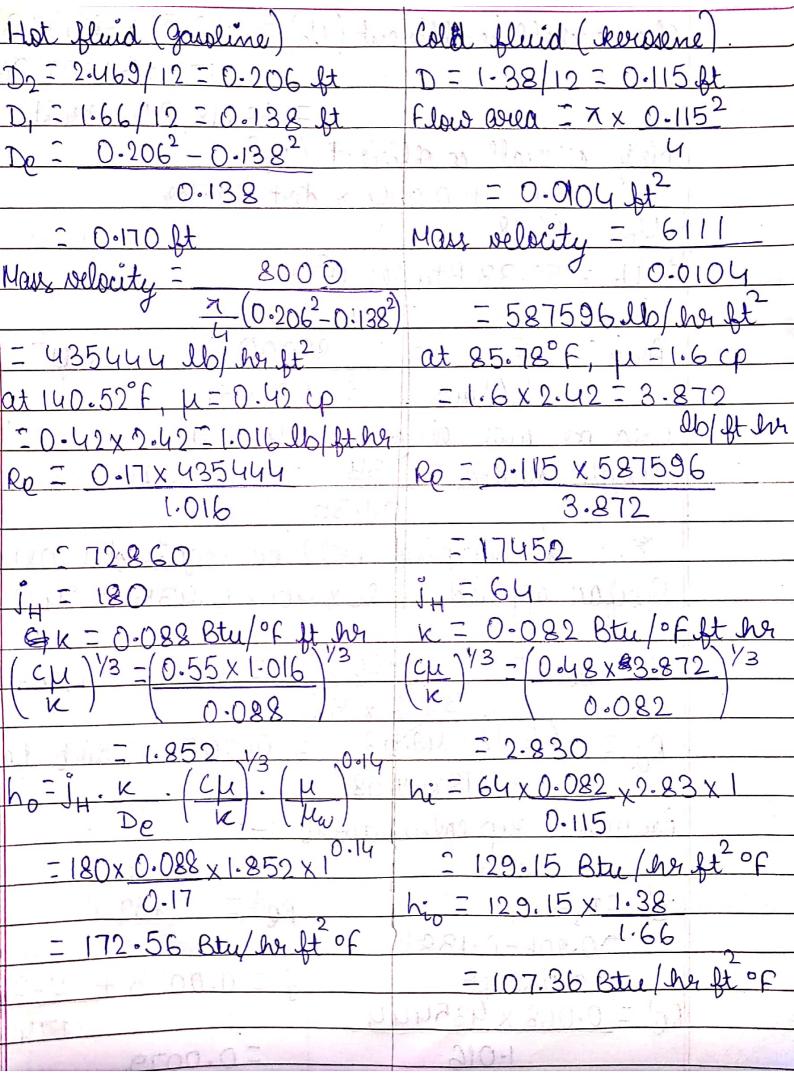
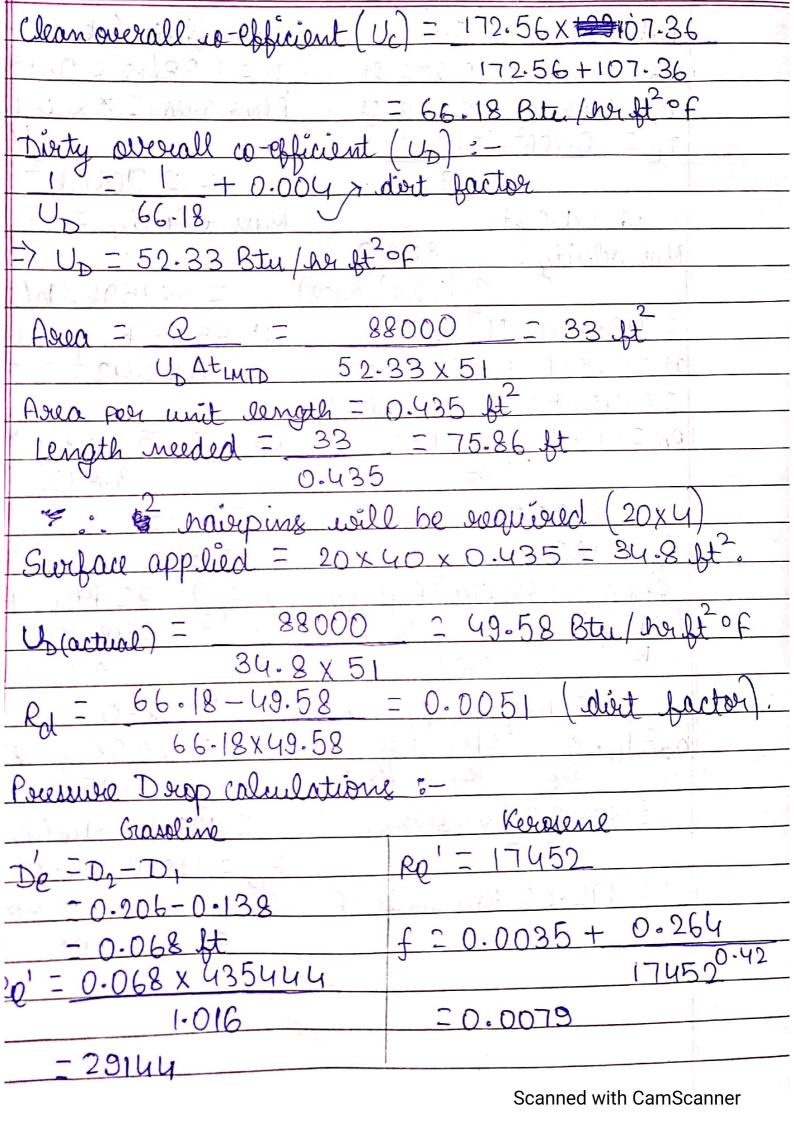
Assignment -1: Goroup 6, York Thurshunevala, 18CH1000 Anchuman Agrawal, 18CH10071 Hot bluid : Gasoline :mgasoline = 8000 lb/ha Final temp = 130°F, Initial temp = 150°F Specific heat = 0.55 Btu/lb°F Cold fluid: Kerosene :-Final temp = 100 F, Juitial temp = 70°F Specific heat = 0.48 Btu/lb°F Heat duty = Q = 8000 x 0.55 x (150-130) = 88000 Btu/in $\frac{(100-70) = 48/100}{LMTD} = \frac{(150-70) - (130-100)}{200} = \frac{50}{3} = 51^{\circ}f$ $\frac{\ln(150-70)}{130-100} = \frac{100}{3}$ Mgardine < 1 but promine > 1 at aug-temperature .. To calculate caloric temperatures, use need ke From the plot fe VIS to given for different API Ke = 0-09 For this Ke, Fe = 0.526. Te (gasline) = 130 + 0.526 (150-130) = 140.52 F t, (kerosene) = 70 + 0.526 (100-70) = 85.78°F





	f=0.0035 + 0.264	specific quanty = 0.805
	present of Reo.42	Skeriosene = 0.805 x 62.5
1 1	70.0035+0.264	= 50.31 lb/ft3
	(29144)0.42	AFROCOLONE = UfG2 L
	= 0.007	Resource 29 P2D
	specific gravity = 0.71	$= 4 \times 0.0079 \times 587596^2 \times 80$
	Squaline = 0.71 x 62.5	2x4.18x10 ⁸ x 50-31 ² x0.115
	5 44.38\$ lb/ft3	23.6 st
	Afange = 4fGL	
	29 P2 Dé	AP = 3.6x50.31
	= 4x0.007 x 4354442 & 80	144
	2×4.18×108×50-312×0.115	= 1.26 psi
	= 3.8 ft 44.38 0.068	
	velocity = 435444	·
	√ 44.375 x 3600	
	= 2.72 fp&	
7	$F_e = 2 \times 2.72^2 = 0.23 \text{ ft}$	
	2x32-2	
	AP = (3.8+0.23) 44.38	
	144	
	= 1.24 psi	
		-
	· · both pressure drops are	I lower than the allowable
	pressure deop the	deign is suitable.
	, ,	

Final Result: We need 2 hairpine to make this proves happen Both havepins need to be connected in series since the pressure drop across looth is lower than the allowable pressure drop.
The dist factor obtained came out to be 0.0051.