## DAA-LAB-3

ALGORITHM: UNEAR.

11 This ago returns minimum and max volues of solono

11 1/P: array of net-salaroies

11 0/P: minimum, maximum salary with employee name

aler linear (net-salaro):

def linear (net-salCJ):

min, max = 0,0 (x) (m)

for i in net-salCJ:

If min > net salCJ:

min = net-salCiJ

If max < netsal CiJ:

max = net salCiJ

return min, max.

2) ALGORITHM: DIVIDE & CONQUER:

def divide- and - conquer (net-sail); left, night):

> If left = right:

if hetsalClett] < net\_salCright]

return left, night

else

neturn night, lett

mintett, maxiett = divide & conquer (net\_sal, lett, mid)
minright, maxight = divide & conquer (net\_sal, more) right

> If netsal[miniete] < net\_sal[miningut]
min = min\_lett 190011 043/113 min=min migno do else 11 Input: Nector with not colo not of employees It notsal [maxieté] > netsal Emaxigne max = maxiett de linear\_methods (nes-sola) sols max = max night 0 = xam alm for 1 in net: 501 []: > return maxim, maxim => FORMULA for Net\_salaryim wouter Net\_Salary = Gross\_Salary - tax - Pf white: Solar 280000 \$ 301000 (\$ Morantax= 0112 + Gross-salarigoplo zinty pf=011+ Gross=salary corrolos 1 input: beto with net solvies of employed 11 Output Employee none and sonones with mont max def dand c(net-sould) If len (vet-sal) >1: enide con (and notical) 110 Thim: 0)102 ton = 1121 Fibin Tips ton the Hande ( Left, minus) (9W) 3DDSM MUHE

	TIME COMPLEXITY:	
	ALGORITHM: (1815AR	1
(1)	CINEARS muminim enough on one sintill	-1
	Let size of array be in 1000 1911	
100	checking/companision takes O(1) time	25 .
100	at every Index we chock twice for min	& max.
	Olef live or (NEE-SOLD):	
	:. Time complexity = T(n) on vin	
	1010 - 230 vii rot	
	T(n) = 52(0(1)) im }	
	titled-ten - vim	
	f  = 2 (n-1+1) + 1	
	Ciolo= an 2/0m.	
	: Tens=Ochonalain abutan	
_		
(5	DIVIDE AND CONQUER MATISON IA	(0)
	At every instant we divide the ano	
	into a posts. Thus we also make	2 (DIMPA
	with interestable	a wright
	T(n) = 2 T(n/2) +20(1)	
	ANDUS = 14HO1 SOLAHO AI	
	THE METERS CITY & METERS CONTAIN	
	On applying masters theorem	
	a=21, b=21, c=0	
	$T(n) = n \log_{10} \frac{1092^{2}}{20n}$	
013	-1 ch 2 per ) - T(n) = 10 (n) ) color of the color	
Colors	-T(n) = 0(n)	

## Testcases:

POSITIVE:

If all the values are present in the file and are non-negative numbers, the test case is considered as positive -> DISPLAY Employee with resp. Salanies.

NEGATIVE:

If filename of CSV is incorrect:

=> DISPLAY ERROR!

"Incorrect filerame"

If negative value of Gross Salary:

—) Display Error:

"Volue of Galary is Negative at 8000 { i}"

If gross salary is missing!

Display ERROR:

"Value of Gross salony is missing"