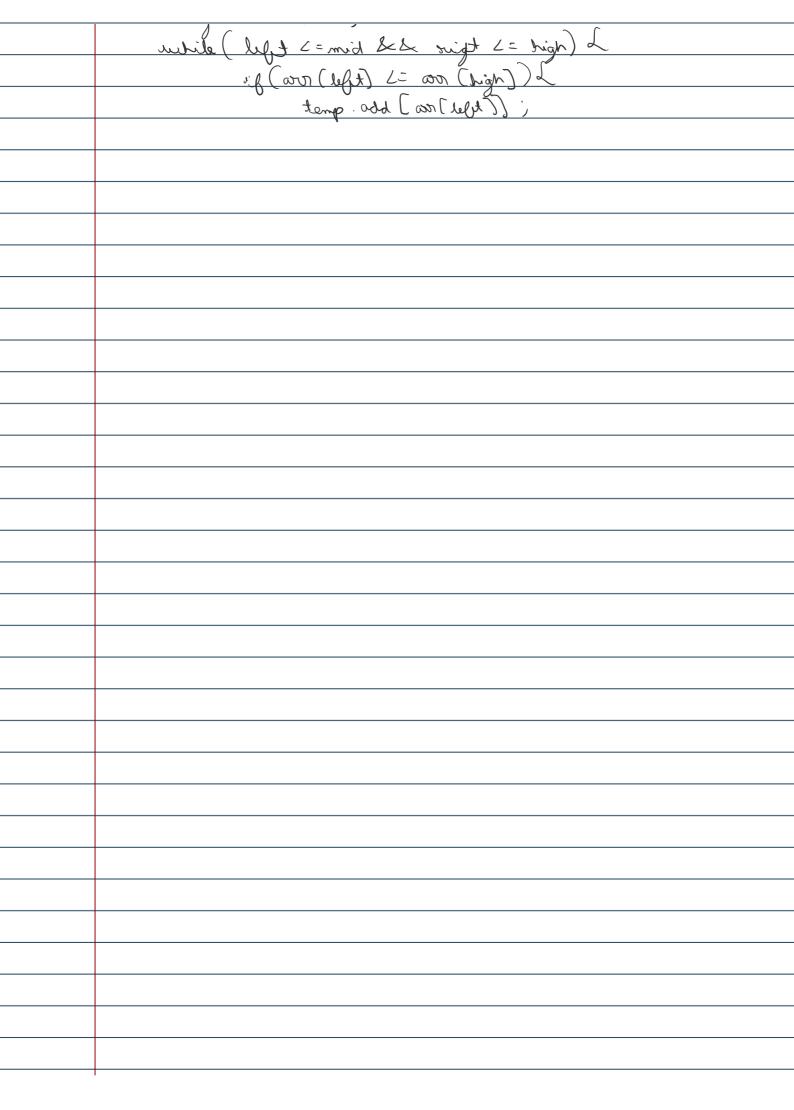
Merge Sort:
· Mesa post is a divide and conquer algorithm,
it divides thegiven way into equal posts and than
margo the 2 ported ports.
There are two functions:
1. Morge (): This function merges two halvo of the
attray assuming both ports are conted.
2. merge Sot (): This function desires the away into 2
(find & Ithin, bin & web). atog
MALONILLON & Procelo C. La
Algorithm & Pseudocode:
· Algorithm.
Tago ( Citt)
function! merge Sort (aso 1), low, high):
. first divide the way into two pasts, divide the
. could out offi speat quarto
eg: range > 0 to 9,
first ray = 0+9 = 0 > 2
2
Decomed half = 3 -> 4
// Dang: law shigh: mid=(low+high)?
rall low - mia
2nd half: mid+1 -> high
divide the array by making rewrite call?
divide the array by making recursive call:  > mesge Sost (aso, (ow, mid) / 1st half  > mesge Sost (aso, mid+1, bigh) / 2nd half.
meage Jost (add, midtl, bigh) 1/2nd half.
a han care of the salary value of
· base case: if (low >= high) betwon;

// Pseudocode:
mesgeSost (ass () low, high)
if (low >= high) bose case
, reutor
int mid = (low thigh) /2; / find mid
merge Soft (ard, low, mid); I left half
merge Sort (arr, low, mid); left half marge Sort (arr, mid+1, high); laight half.
id to low wid bid.
monge (000, how, mid, high);
· merge (asr (), low, mid, high):
out est go drande est erote of years quart a com <
existen to the years between court see c
(left)
other at mid +1.
(tight)
ett tide (deid = 3 typit && bim = 3 tyel) gool elidur grieu < treet troeni bro trande typit & tyel ett norg numinim
troin but trouble topin I tight est north municion
it in temp array.
- si ti co beigos de Misu chamele tuo- tfel c
> transfer elements from temp to Dange low to high,
in original ordray.
merge (art, low, mid, high)?
tonp ();
left - low;
Thight = mid+1;
L (high = > think => think => think ) shitu



left ++;
Isele
i [(thing) 1000 ] bbs. gnot
right ++,
5
Ŷ
L (bim => tgs) stitus
([[tgs]) ca) bla, gnot
left ++;
J
L (night = 2 topin) Student
((type) oa ) bho. gnet
right + +;
for (i=law > high) L
· [ Just · i ] greet = [i] va
time complexity: O(nlogn)  Space complexity: O(n)
Space complexity: O(n)