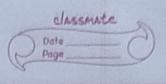
# Min Hax balaries #Input: array of salaries # Output & min, mare salary min\_val, more\_val = float("inf"), fto min\_val <- 00 marc-val <--for each entry of salary: do if entry > mancroal than marcual <- entry if entry < min\_val then min-val <- entry setura min val, mar val The gunning time complexity is O(n) ": We visit each value of array time complexity is O(n).

200 1 1

#Min Marc issing divide & conquer # Input: array of salaries ## Output: min and mare values. stall I govern divide ( left, right): if len (benoth text) == 1 divide (array): if len (0001) == 1 then [O]rra, [O]rra nuter left, right = arr[: mid], arrtnid:] min\_1, manc\_1 = divide (left) min\_2, mar\_2 = divide (right) minual <-00 mans\_val <--00 if min\_1 < min\_2 then min\_val < min\_1 else

min\_val <- min\_2

5



y mar\_1 < mar\_2 then

mone-val <- mane-2

else

more val <- mare 1

return min-val, more-val.

Time complexity: O(n) wintiged

T(n) = 2T(n/2) + O(1)

left and simple sight half comparison 221: OI I los Dill H

a=2, b=2, d=0

.. by master theorem,

a=2, bd = 20=:101 : los outila

9(n(0922) = 0(n)

.. The time complexity is O(n).

## The code is written in PEP 8 coding style.

## **Output:**

```
C:\Users\Krish\Python\Test\.venv\Scripts\python.exe C:\Users\Krish\Python\Test\Daa.py
TestCase 1:
Max Salary: ID: 1193, Name: Thomas Horne, Gross: 2363688803.67, Net: 2085996492.47
Min Salary: ID: 789, Name: Brittany Glover, Gross: 14215701.5, Net: 12545405.1
Empty Cells: 168, Non Positive Salaries: 215, Invalid Datatypes: 0
TestCase 2:
The file does not contain valid data!!
Empty Cells: 0, Non Positive Salaries: 0, Invalid Datatypes: 0
TestCase 3:
The file does not contain valid data!!
Empty Cells: 168, Non Positive Salaries: 0, Invalid Datatypes: 1832
TestCase 4:
Max Salary: ID: 158, Name: Ricky Hull, Gross: 1729257720.67, Net: 1526099970.27
Min Salary: ID: 16, Name: Gregory Beck, Gross: 105381633.5, Net: 93000933.9
Empty Cells: 110, Non Positive Salaries: 1750, Invalid Datatypes: 0
TestCase 5:
Min Salary: ID: 1080, Name: Bianca Robinson, Gross: 75656485.67, Net: 66767971.27
Max Salary: ID: 155, Name: Ashley Duarte, Gross: 2319984929.17, Net: 2047427059.17
Empty Cells: 110, Non Positive Salaries: 410, Invalid Datatypes: 0
```

## **Conclusion:**

In this practical, we setup visual studio code in the local computer and got acquainted with it. Concepts of coupling and cohesion was learnt and used in the program for the practical. The program uses data coupling as only the list containing the employee details is passed around the functions and uses sequential cohesion as the output of one function is fed to another for further processing. Also, to find the mix and max salary of the employees, two approaches were used one was linear and another divide and conquer approach. Both the approaches yielded time complexity of O(n).