**Merge Sort**

from datetime import datetime  
start\_time=datetime.now()  
def mergeSort(arr):  
 if len(arr) > 1:  
 a =len(arr)// 2   
 left\_array = arr[:a]  
 right\_array = arr[a:]  
 *# print("left",l)  
 # print('right',r)* mergeSort(left\_array)  
 mergeSort(right\_array)  
 b = c = d = 0  
 while (b < len(left\_array) and c < len(right\_array)):  
 if (left\_array[b] < right\_array[c]):  
 arr[d] = left\_array[b]  
 b=b+1  
 *# print(arr)* else:  
 arr[d] = right\_array[c]  
 c=c+1  
 *# print(arr)* d=d+1  
 while (b<len(left\_array)):  
 arr[d] = left\_array[b]  
 b=b+1  
 d=d+1  
 while (c<len(right\_array)):  
 arr[d]=right\_array[c]  
 c=c+1  
 d=d+1  
 return arr  
  
n = int(input("Enter the size of the list= "))  
arr = list(map(int, input("Enter the array elements= ").split(',')))  
print("Sorted array is: ",mergeSort(arr))  
  
end\_time=datetime.now()  
print('Starting-time= ',start\_time)  
print('Ending-time= ',end\_time)  
print('Excution-Taken-Time= ',end\_time-start\_time)

Graphical user interface, text, application, email

Description automatically generated