## MERGE SORT

Merge sort is defined as sorting algorithm that works by dividing an array into smaller subarrays, sorting each sub array and then sorting merging the sorted subarrays back together to form final sorted array.

Working-

- 1. pivide array into two parts
- 2 creth both parts sorted via recursion no months
- 3. Merge two sorted paths

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Example -
  public class Mergesort &
        public static void main (string [) angs) 1
             int[]am = 15, 4, 3, 2, 4);
             System. out. printin (mergesort (arr));
        Static int[] merge sort (int[] arr) ?
              if (arr.length --1)
              return arr; sont it mos sons
             int mid - arriength/2;
             Int[] left = mergesort (Arrays, copy OFRange Carr, O,
       f (2pan Edpainted airon bin sitots sildimid));
             int[] right - mergesort (Arrays, copy OFRange Carr, mid,
    METAL COLL TO PART COLT EL OUT 100 3013/77
                                             arr.length));
 return menge Clert, right),
Static Int[] merge (int[] left, int[] tight)
           int[] mix = new int [left.length + right.length];
           int i-o:
           int j-0; (9) (9)
           int. K+O. a mad sint attrossion
          While Cik teletiength 600 jkright.length)?
              if Carrieft (i] ( Hight [j]) 1
                    mix[K] = left (i);
..... melsertation biou s'apre sildua
                    mix [K] - Hight [j];
              7. [2-9] + mi wan - xim [] 171
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              KH
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         while (1x left-length)?
            mix[K] - jeft[]:
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YOUVA Date while (jx right.length)? mix[k] - right(j); I Come Clakiting mineral backy bite to suddien Congress dellers de la constant de l return mix; 2 (Translation Propagation Steels Merge Sort In Place to depoint the bud the public class Mergesorth public static void main (String[Jargs)1 ben a same of signification of the signification of merge Sort In Place Carr, 0, arr. length); System. out, println (Arrays. to String (arr)); static void mergesort InPlace (int Darr, Ints, int e)1 Chamber 19 (ets == 1) I mi was xin Cini return; int mid: (ste)/2; merge 80rt In Place (arr, 9, mid); merge Sort-Th Place (arr, mid e). mergeInPlace (arr, s, mid, e); : [1] 1 10: - [ 1] Tooley public static void merge In Place Cint Jam, ints, intm, inte)1 Illini - Min int [] mix - new int te-s]; int i-s; int j-m; int ken; Manigary in the Contract - Delivery

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