

# # Inplace sorting

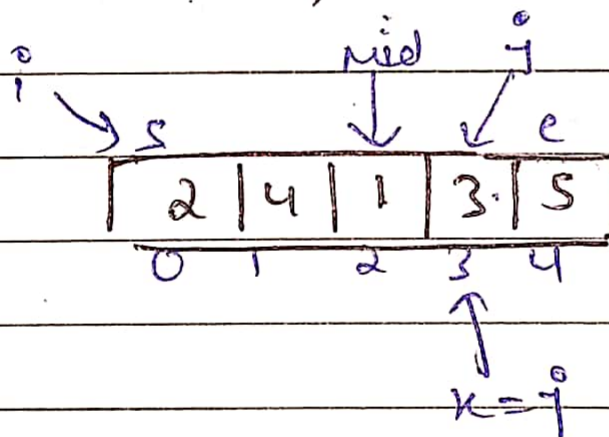
## Merge Sort

- Divide ka same process
- Merge ka diff process

Ex

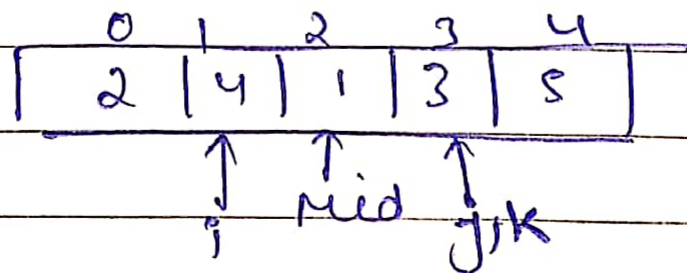
$$s=0, e=4, mid=(s+e)/2$$

$$i=s, j=mid+1, k=j$$



$$\frac{(0+4)}{2} = 2$$

so yaha if  $arr[i] \leq arr[j]$   
 $i++$



$$\frac{4}{2} = 2$$

so Here  $arr[i] > arr[j]$

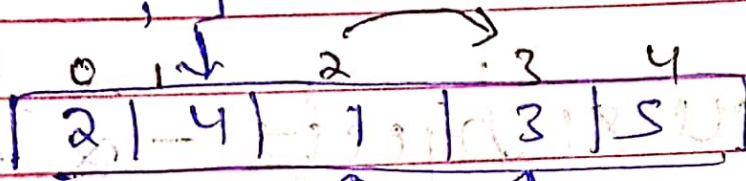
temp = arr[j];

k = j

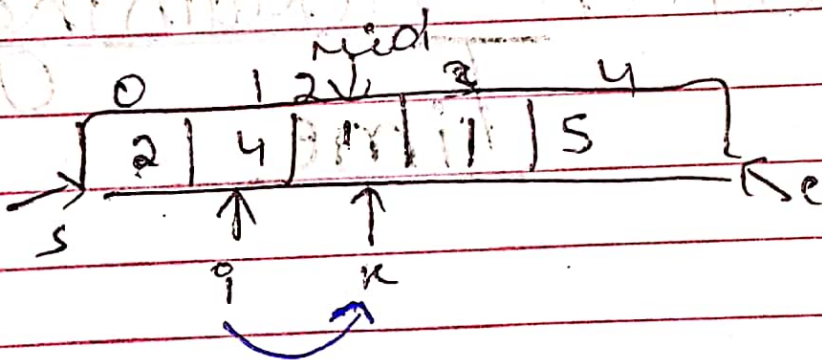
while (k > i)

{ arr[k] = arr[k-1]

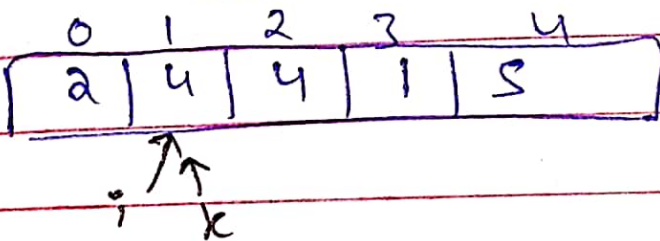
k--



k > i  
4 > 1

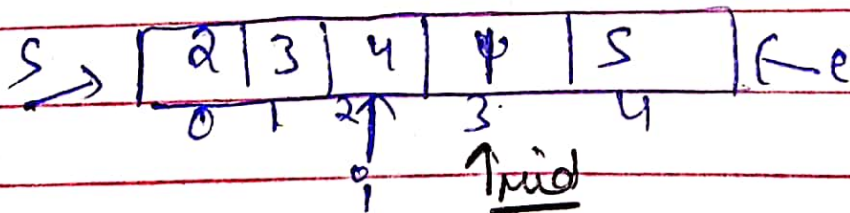


k > i  
2 > 1



arr[i] = temp

k = i  
1 = 1



2 + 4 / 2 = 3

same process Repeat Again