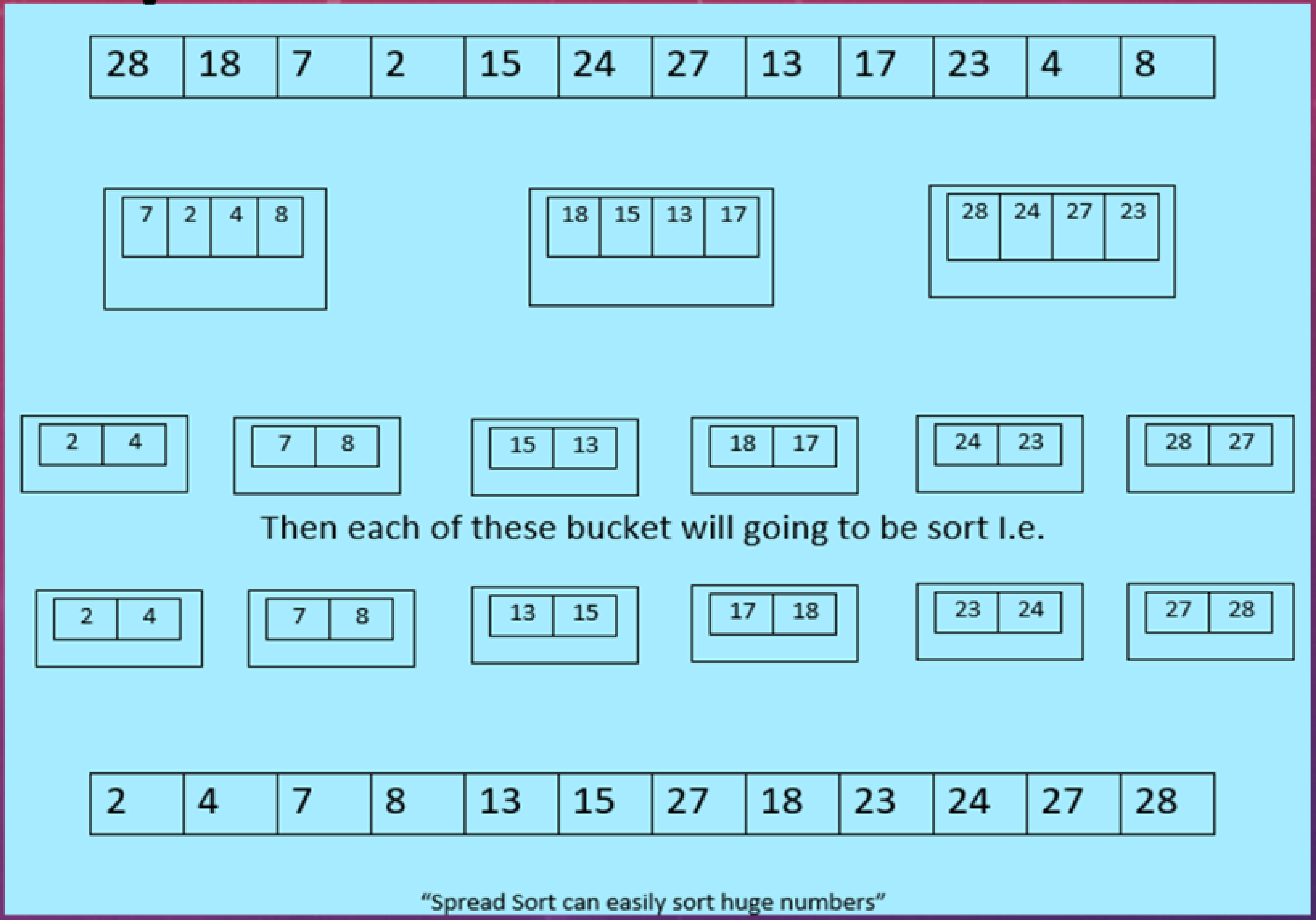
SPREAD SORT

- INVENTED BY STEVEN.J ROSS IN 2002.
- IT CAN ALSO BE REFERRED AS BOOST SORT.
- AN EXTREMELY FAST HYBRID SORT COMPRISING OF DISTRIBUTION-BASED SORT LIKE BUCKET SORT, ALONG WITH COMPARISON SORT LIKE QUICK SORT

AVERAGE CASE : θ (n)
WORST CASE: O(nlog(n))
SPACE COMPLEXITY: 2^d*k/d

WORKING OF THE SORT:



ALGORITHM:

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1: FuntionBucketSort [array,s]
is
2: Bucket← new array of s empty lists
3: M← the maximum key value in
the array
4: For I =1 to length[array] do
5: Insert array[i] into bucket[i]
or{array[i]/M*k}]
6: Algorithm quicksort(A,Low,High) is
7: If Low<High then
8: P=partition(A, Low,High)
9: QuickSort(A,Low,P-1)
10: QuickSort(A,P+1,High)
11: Algorithm
partition(A,Low,High) is
12: Pivot=A[High]
13: I=Low
14: For j=Low to High-1 do
15: If A[j]< pivot then
16: If i!=j then
17: Swap A[i] with A[j]
18: I=I+1
19: Swap A[i] with A[High]
20: return i
```

USES OF SPREAD SORT

1) FACILITATE USERS THE MOST MODERN.FAST AND MEMOMERY EFFICIENT ALGORITHM.
2) PROVIDES STABLE& UNSTABLE SORTING ALGORITHMS,IN SINGLE THREADED & PARALLEL VERSIONS.
3) NO RELIENCE ON OTHER LIBRARY OR UTILITY.

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