Merge Sort

- Consider the following list of numbers

02 05 03 15 10 07

- We will try to arrange these in ascending order

Merge Sort

- We divide into partitions of size 1

02 05 03 15 10 07

- The numbers in adjacent partitions are sorted & the new list created

Merge Sort

- We get

02 05 03 15 10 07

02 05 03 15 07 10

- Now making the partition size as 2

Merge Sort

- We get

02 05 03 15 07 10

- Repeating the same procedure of adjacent partition sorting, we get

02 03 05 15 07 10

Merge Sort

- We get

02 03 05 15 07 10

- Note that the last partition did not have a partner for comparison; Hence it goes down as it is

Merge Sort

- Making size as 4 & sorting adjacent partitions we get

02 03 05 15 07 10

02 03 05 07 10 15

Merge Sort

- Note that the last partition could be incomplete.

02 03 05 15 07 10

02 03 05 07 10 15

Merge Sort

- Doubling to partition size to 8.

02 03 05 07 10 15

- We have 6 numbers. Hence we STOP
- We STOP when
  partition size >= Number of elements

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05 03

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Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05 03 15

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05 03 15

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05 03 15 07

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 10 07

L1 i U1 L2 j U2

02 05 03 15 07 10

DATA STRUCTURES@NAVLAKHI™

Merge Sort

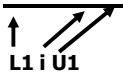
02 05 03 15 07 10

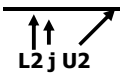
L1 i U1 L2 j U2

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 07 10



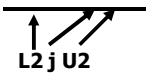


02

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 07 10

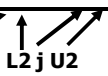


02 03

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 07 10

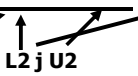


02 03 05

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 07 10

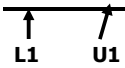


02 03 05 15

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 07 10

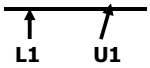


02 03 05 15

DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 05 03 15 07 10

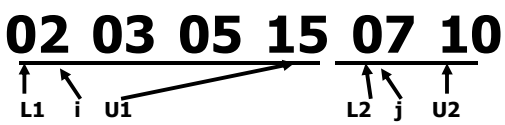


02 03 05 15 07 10

LONELY PARTITION DUMP

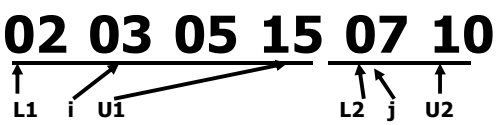
DATA STRUCTURES@NAVLAKHI™

Merge Sort



DATA STRUCTURES@NAVLAKHI™

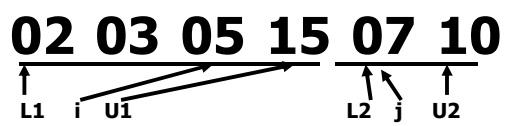
Merge Sort



02

DATA STRUCTURES@NAVLAKHI™

Merge Sort



02 03

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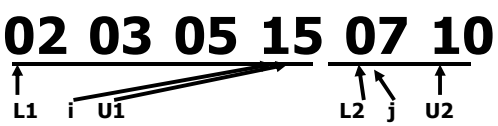
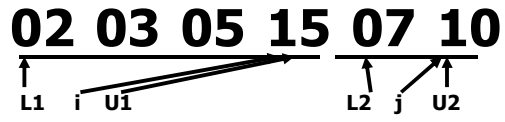
Merge Sort



02 03 05

DATA STRUCTURES@NAVLAKHI™

Merge Sort



02 03 05 07

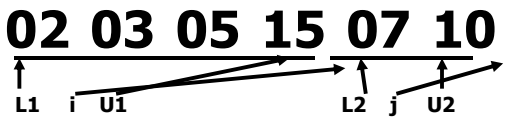
DATA STRUCTURES@NAVLAKHI™

Merge Sort

02 03 05 07 10

DATA STRUCTURES@NAVLAKHI™

Merge Sort



02 03 05 07 10 15

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Merge Sort

02 03 05 07 10 15

SIZE = 8 STOP

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