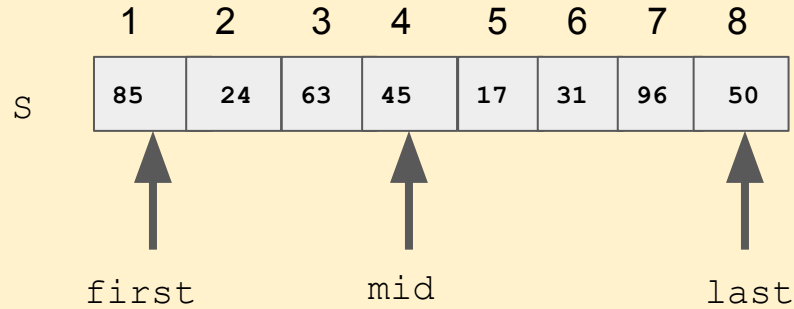
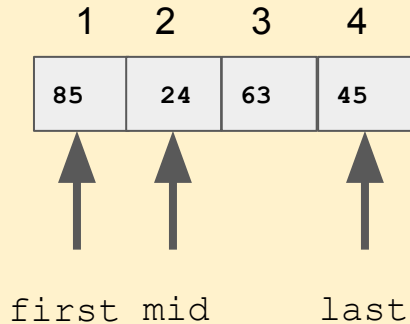


# Merge sort

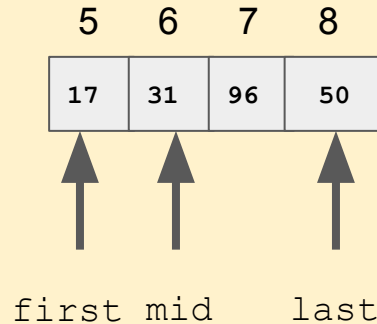
`mergeSort(S, 1, 8)`



`mergeSort(S, 1, 4)`

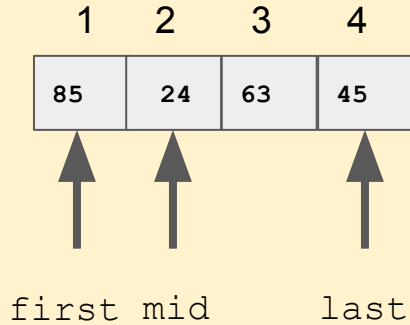


`mergeSort(S, 5, 8)`

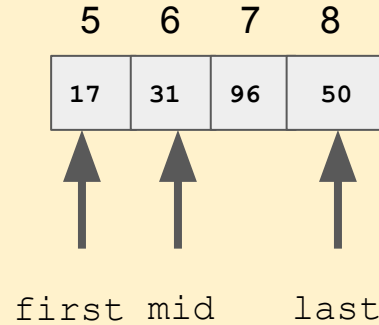


# Merge sort

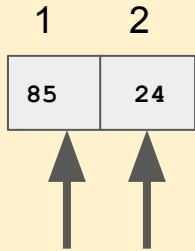
`mergeSort(S, 1, 4)`



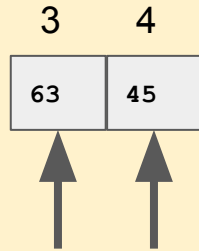
`mergeSort(S, 5, 8)`



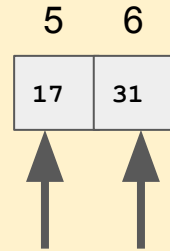
`mergeSort(S, 1, 2)`



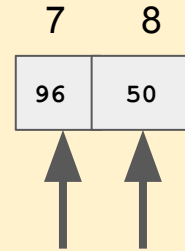
`mergeSort(S, 3, 4)`



`mergeSort(S, 5, 6)`



`mergeSort(S, 7, 8)`



mid

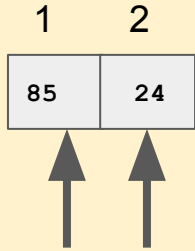
mid

mid

mid

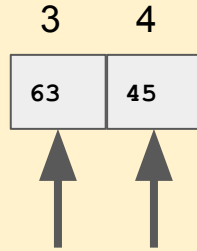
# Merge sort

`mergeSort(S, 1, 2)`



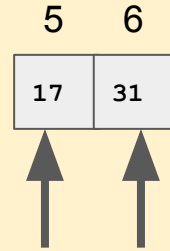
first last  
mid

`mergeSort(S, 3, 4)`



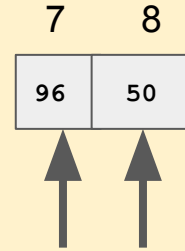
first last  
mid

`mergeSort(S, 5, 6)`



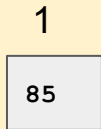
first last  
mid

`mergeSort(S, 7, 8)`



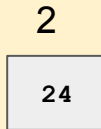
first last  
mid

`mergeSort(S, 1, 1)`



`mergeSort(S, 2, 2)`

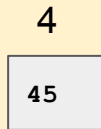
`mergeSort(S, 3, 3)`



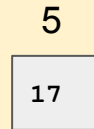
`mergeSort(S, 4, 4)`



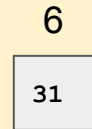
`mergeSort(S, 5, 5)`



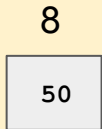
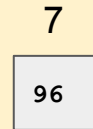
`mergeSort(S, 6, 6)`



`mergeSort(S, 7, 7)`

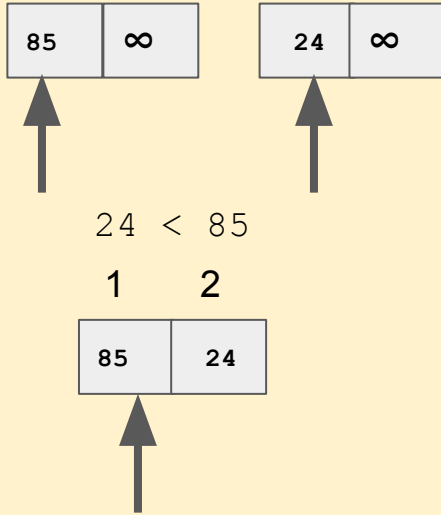


`mergeSort(S, 8, 8)`

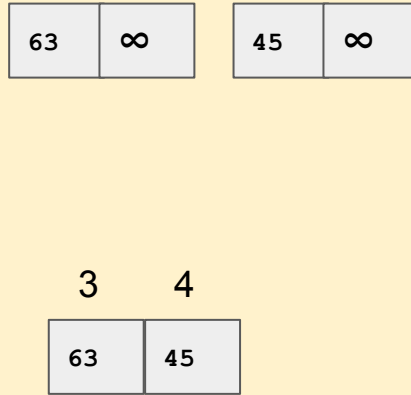


# Merge sort

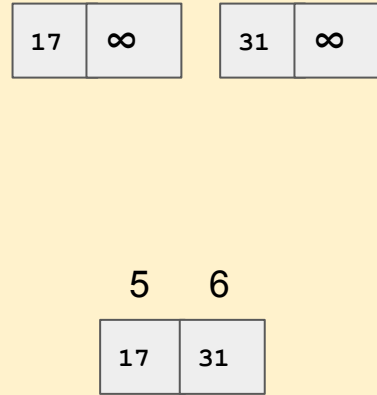
mergeSort(S, 1, 2)



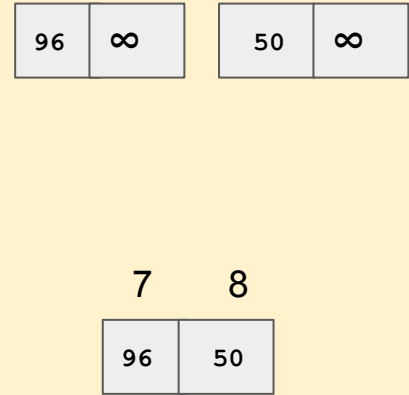
mergeSort(S, 3, 4)



mergeSort(S, 5, 6)



mergeSort(S, 7, 8)



# Merge sort

mergeSort(S, 1, 2)

85	$\infty$
----	----------



24	$\infty$
----	----------



1    2

24	24
----	----



mergeSort(S, 3, 4)

63	$\infty$
----	----------

45	$\infty$
----	----------

3    4

63	45
----	----

mergeSort(S, 5, 6)

17	$\infty$
----	----------

31	$\infty$
----	----------

5    6

17	31
----	----

mergeSort(S, 7, 8)

96	$\infty$
----	----------

50	$\infty$
----	----------

7    8

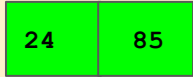
96	50
----	----

# Merge sort

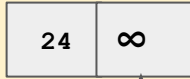
mergeSort(S, 1, 2)



1    2

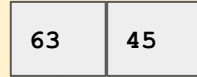


mergeSort(S, 3, 4)

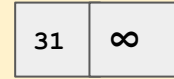
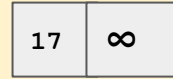


45 < 63

3    4



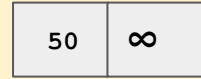
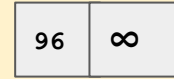
mergeSort(S, 5, 6)



5    6



mergeSort(S, 7, 8)



7    8



# Merge sort

`mergeSort(S, 1, 2)`

85	$\infty$
----	----------

24	$\infty$
----	----------

1	2
24	85

`mergeSort(S, 3, 4)`

63	$\infty$
----	----------

45	$\infty$
----	----------

3	4
45	45

`mergeSort(S, 5, 6)`

17	$\infty$
----	----------

31	$\infty$
----	----------

5	6
17	31

`mergeSort(S, 7, 8)`

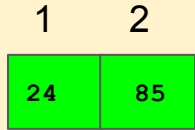
96	$\infty$
----	----------

50	$\infty$
----	----------

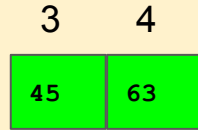
7	8
96	50

# Merge sort

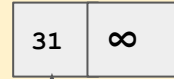
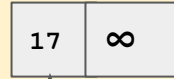
`mergeSort(S, 1, 2)`



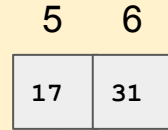
`mergeSort(S, 3, 4)`



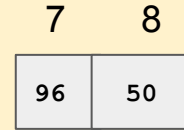
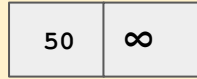
`mergeSort(S, 5, 6)`



$17 < 31$



`mergeSort(S, 7, 8)`





# Merge sort

`mergeSort(S, 1, 2)`

85	$\infty$
----	----------

24	$\infty$
----	----------

1	2
24	85

`mergeSort(S, 3, 4)`

63	$\infty$
----	----------

45	$\infty$
----	----------

3	4
45	63

`mergeSort(S, 5, 6)`

17	$\infty$
----	----------

31	$\infty$
----	----------



5	6
17	31



`mergeSort(S, 7, 8)`

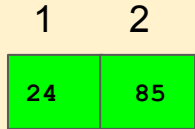
96	$\infty$
----	----------

50	$\infty$
----	----------

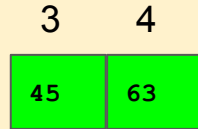
7	8
96	50

# Merge sort

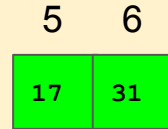
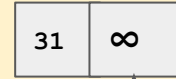
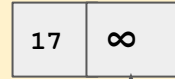
`mergeSort(S, 1, 2)`



`mergeSort(S, 3, 4)`



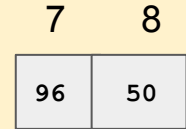
`mergeSort(S, 5, 6)`



`mergeSort(S, 7, 8)`



50 < 96



# Merge sort

mergeSort(S, 1, 2)

85	$\infty$
----	----------

24	$\infty$
----	----------

1	2
24	85

mergeSort(S, 3, 4)

63	$\infty$
----	----------

45	$\infty$
----	----------

3	4
45	63

mergeSort(S, 5, 6)

17	$\infty$
----	----------

31	$\infty$
----	----------

5	6
17	31

mergeSort(S, 7, 8)

96	$\infty$
----	----------

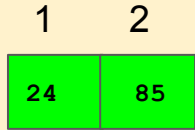
50	$\infty$
----	----------

7	8
50	50

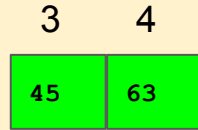


# Merge sort

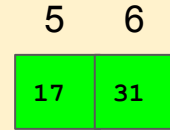
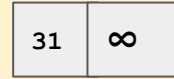
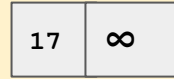
mergeSort(S, 1, 2)



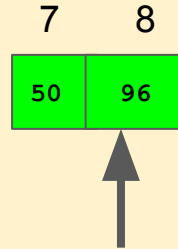
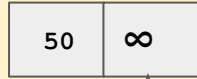
mergeSort(S, 3, 4)



mergeSort(S, 5, 6)



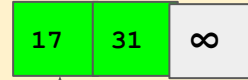
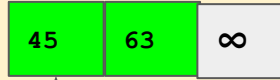
mergeSort(S, 7, 8)



# Merge sort

`mergeSort(S, 1, 4)`

`mergeSort(S, 5, 8)`

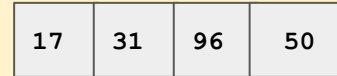


$24 < 45$

1    2    3    4

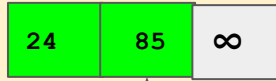


5    6    7    8

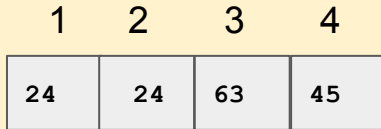


# Merge sort

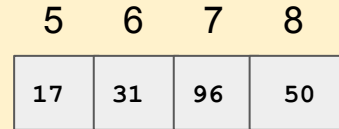
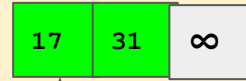
`mergeSort(S, 1, 4)`



$45 < 85$



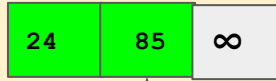
`mergeSort(S, 5, 8)`



# Merge sort

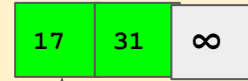
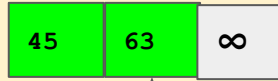
`mergeSort(S, 1, 4)`

`mergeSort(S, 5, 8)`

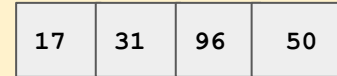


$63 < 85$

1    2    3    4



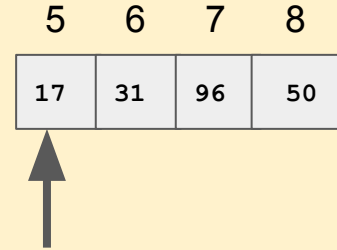
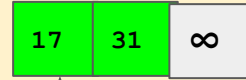
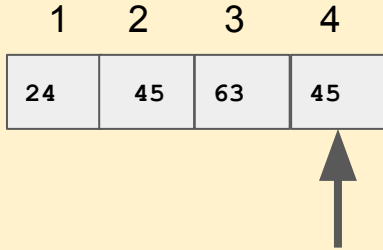
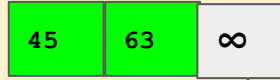
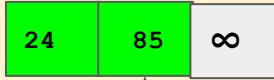
5    6    7    8



# Merge sort

`mergeSort(S, 1, 4)`

`mergeSort(S, 5, 8)`

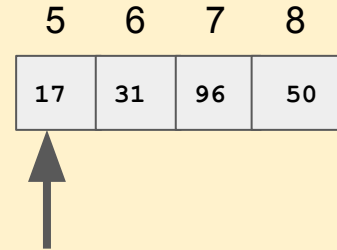
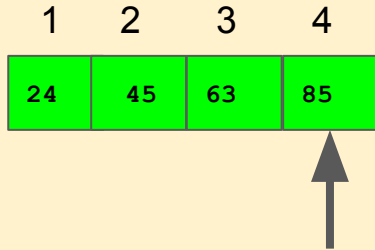
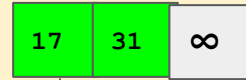
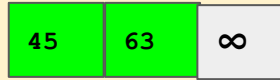




# Merge sort

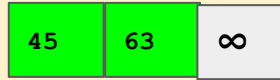
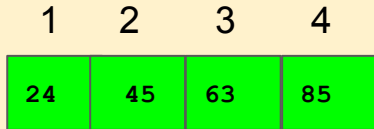
`mergeSort(S, 1, 4)`

`mergeSort(S, 5, 8)`

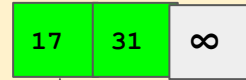


# Merge sort

`mergeSort(S, 1, 4)`

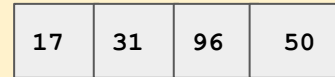


`mergeSort(S, 5, 8)`



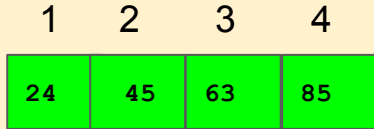
$17 < 50$

5    6    7    8

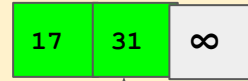
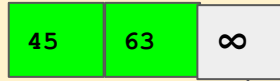


# Merge sort

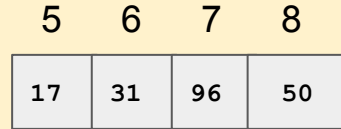
`mergeSort(S, 1, 4)`



`mergeSort(S, 5, 8)`

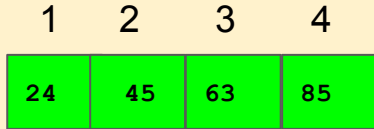


$31 < 50$

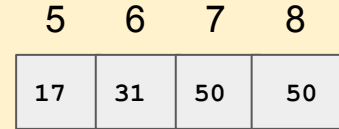
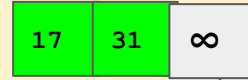
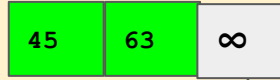


# Merge sort

`mergeSort(S, 1, 4)`

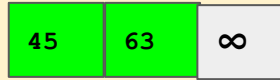
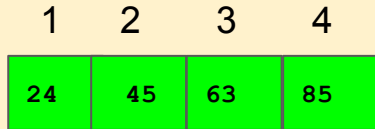


`mergeSort(S, 5, 8)`

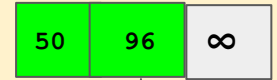
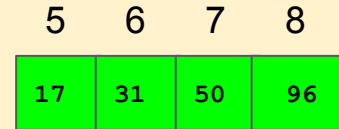
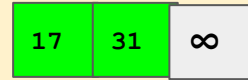


# Merge sort

`mergeSort(S, 1, 4)`



`mergeSort(S, 5, 8)`



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$17 < 24$

	1	2	3	4	5	6	7	8
S	85	24	63	45	17	31	96	50



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$24 < 31$

	1	2	3	4	5	6	7	8
S	17	24	63	45	17	31	96	50



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$31 < 45$

	1	2	3	4	5	6	7	8
S	17	24	63	45	17	31	96	50





# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$45 < 50$

	1	2	3	4	5	6	7	8
S	17	24	31	45	17	31	96	50



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$50 < 63$

	1	2	3	4	5	6	7	8
S	17	24	31	45	17	31	96	50



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$63 < 96$

	1	2	3	4	5	6	7	8
S	17	24	31	45	50	31	96	50



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



$85 < 96$

	1	2	3	4	5	6	7	8
S	17	24	31	45	50	63	96	50



# Merge sort

`mergeSort(S, 1, 8)`

24	45	63	85	$\infty$
----	----	----	----	----------



17	31	50	96	$\infty$
----	----	----	----	----------



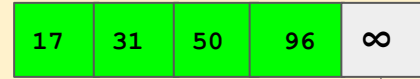
$85 < 96$

	1	2	3	4	5	6	7	8
S	17	24	31	45	50	63	85	50



# Merge sort

`mergeSort(S, 1, 8)`



$85 < 96$

1    2    3    4    5    6    7    8

S

