## 1 MergeSort

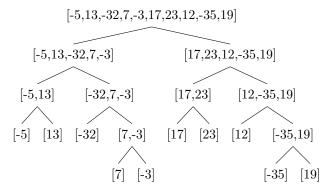


Diagram 1: Teilen

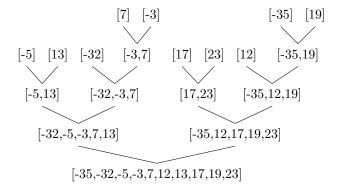


Diagram 2: Mischen

## 2 HeapSort

 $a[] = \{-5, 13, -32, 7, -3, 17, 23, 12, -35, 19\}$ 

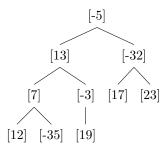


Diagram 3: Heap

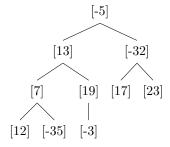


Diagram 4: BuildHeap 1

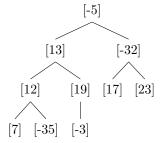


Diagram 5: BuildHeap 2

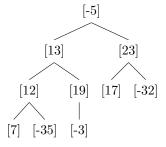


Diagram 6: BuildHeap 3

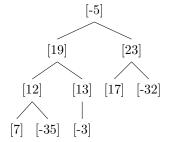
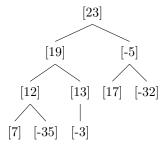


Diagram 7: BuildHeap 4



**Diagram 8:** BuildHeap 5

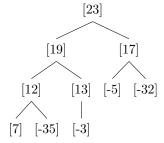


Diagram 9: BuildHeap 6

$$a[] = \{-, -, -, -, -, -, -, -, 23\}$$

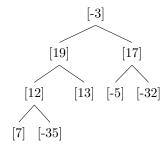


Diagram 10: HeapSort 1

$$a[] = \{-,-,-,-,-,-,-,23\}$$

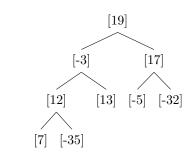


Diagram 11: HeapSort 2

$$a[] = \{-, -, -, -, -, -, -, -, 23\}$$

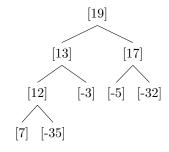


Diagram 12: HeapSort 3

$$a[] = \{-, -, -, -, -, -, -, -, 19, 23\}$$

$$[13] \qquad [17]$$

$$[12] \qquad [-3] \qquad [-5] \qquad [-32]$$

$$[7]$$

Diagram 13: HeapSort 4

Diagram 14: HeapSort 5

$$a[] = \{-, -, -, -, -, -, -, -, 19, 23\}$$

$$[13] \qquad [-5]$$

$$[12] \qquad [-3] \qquad [-35] \qquad [-32]$$

$$[7]$$

Diagram 15: HeapSort 6

 $a[] = \{-, -, -, -, -, -, -, 17, 19, 23\}$ 

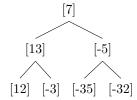


Diagram 16: HeapSort 7

$$a[] = \{-,-,-,-,-,-,17,19,23\}$$

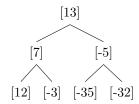


Diagram 17: HeapSort 8

$$a[] = \{-,-,-,-,-,-,17,19,23\}$$

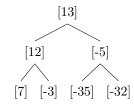


Diagram 18: HeapSort 9

$$a[] = \{-, -, -, -, -, -, 13, 17, 19, 23\}$$

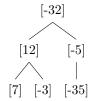


Diagram 19: HeapSort 10

$$a[] = \{-, -, -, -, -, -, 13, 17, 19, 23\}$$

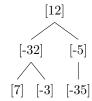


Diagram 20: HeapSort 11

$$a[] = \{-,-,-,-,-,13,17,19,23\}$$

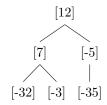


Diagram 21: HeapSort 12

$$a[] = \{-, -, -, -, -, 12, 13, 17, 19, 23\}$$

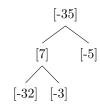


Diagram 22: HeapSort 13

$$a[] = \{-, -, -, -, -, 12, 13, 17, 19, 23\}$$

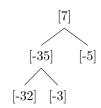


Diagram 23: HeapSort 14

$$a[] = \{-, -, -, -, -, 12, 13, 17, 19, 23\}$$

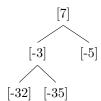


Diagram 24: HeapSort 15

$$a[] = \{-,-,-,-,7,12,13,17,19,23\}$$

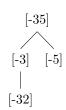


Diagram 25: HeapSort 16

$$a[] = \{-,-,-,-,7,12,13,17,19,23\}$$

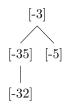


Diagram 26: HeapSort 17

$$a[] = \{-, -, -, -, 7, 12, 13, 17, 19, 23\}$$

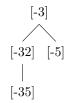


Diagram 27: HeapSort 18

$$a[] = \{-, -, -, -3, 7, 12, 13, 17, 19, 23\}$$
 
$$[-35]$$
 
$$[-32] \quad [-5]$$

Diagram 28: HeapSort 19

$$a[] = \{-, -, -, -3, 7, 12, 13, 17, 19, 23\}$$

$$[-5]$$

$$[-32] [-35]$$

Diagram 29: HeapSort 20

$$a[] = \{-, -, -5, -3, 7, 12, 13, 17, 19, 23\}$$
 
$$[-35] \\ | \\ [-32]$$

Diagram 30: HeapSort 21

$$a[] = \{-, -, -5, -3, 7, 12, 13, 17, 19, 23\}$$
 
$$[-32] \\ | \\ [-35]$$

Diagram 31: HeapSort 22

$$a[] = \{-, -32, -5, -3, 7, 12, 13, 17, 19, 23\}$$

$$[-35]$$

Diagram 32: HeapSort 23

$$a[] = \{-35, -32, -5, -3, 7, 12, 13, 17, 19, 23\}$$

Diagram 33: HeapSort 24