



HUMBOLDT UNIVERSITY OF BERLIN

EINFÜHRUNG IN DAS WISSENSCHAFTLICHE RECHNEN

**XXX**

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## **Contents**

7	1	5	4	9	2	8	3	0	6	find the pivot
1	7	5	4	9	2	8	3	0	6	swap 7 and 1
1	5	7	4	9	2	8	3	0	6	swap 7 and 5
1	5	4	7	9	2	8	3	0	6	swap 7 and 4
1	5	4	2	9	7	8	3	0	6	swap 7 and 2
1	5	4	2	3	7	8	9	0	6	swap 9 and 3
1	5	4	2	3	0	8	9	7	6	swap 7 and 0
1	5	4	2	3	0	6	9	7	8	swap 8 and the pivot

Now, the pivot 6 is on the right place and every element on the left side is smaller and every element on the right side is larger than the pivot.

1	5	4	2	3	0	6	9	7	8
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We partition the sequence into two smaller ones and apply the algorithm on each.

1	5	4	2	3	0	find the pivot
0	5	4	2	3	1	swap 1 and the pivot

The pivot 0 is correctly placed.

0	5	4	2	3	1
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Since there is no left side of the pivot, we proceed with the right side.

5	4	2	3	1	find the pivot
1	4	2	3	5	swap 5 and the pivot

Again, 1 is placed correctly in the far left. The following sequence is left.

1	4	2	3	5
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Now we have

4	2	3	5	find the pivot
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since the pivot 5 is already correctly placed, there is no swapping to do. We continue with

4	2	3	find the pivot
2	4	3	swap 4 and 2
2	3	4	swap 4 and the pivot

After this, the left side of the initial partition is correctly sorted.

0	1	2	3	4	5	6	9	7	8
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We continue with the right side.

9	7	8	find the pivot
7	9	8	swap 9 and 7
7	8	9	swap 9 and the pivot

At the end of the algorithm we have the correctly sorted list.

0	1	2	3	4	5	6	7	8	9
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