

The background features a light blue gradient with abstract circuit-like patterns. Purple and orange lines, some with small circles at their ends, crisscross the frame. In the bottom right, there's a grid of small blue dots with a larger, more complex pattern of orange and purple lines and dots.

Algoritmi de Sortare

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01

Radix Sort 10



Timpi de rulare

	Vector sortat	Vector sortat inversat	Vector cu elementele egale	Vector random	Vector cu putine inversiuni
N = 1e4	4ms	3ms	2ms	2ms	5ms
N = 1e6	181ms	183ms	171ms	184ms	188ms
N = 1e7	2193ms	2212ms	2184ms	2256ms	2240ms

02

MergeSort



Timpi de rulare - nr intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	7ms	2ms	6ms	2ms	7ms
N = 1e6	334ms	333ms	331ms	438ms	447ms
N = 1e7	3674ms	3678ms	3625ms	5132ms	5012ms

Timpi de rulare - nr. real

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	7ms	3ms	2ms	7ms	3ms
N = 1e6	334ms	352ms	339ms	476ms	482ms
N = 1e7	3815ms	3987ms	4002ms	5710ms	5469ms

03

ShellSort



Timpi de rulare - nr. intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	0.7ms	9ms	0.9ms	4ms	4ms
N = 1e6	986ms	341ms	48ms	1287ms	1252ms
N = 1e7	25260ms	31439ms	550ms	29549ms	29178ms

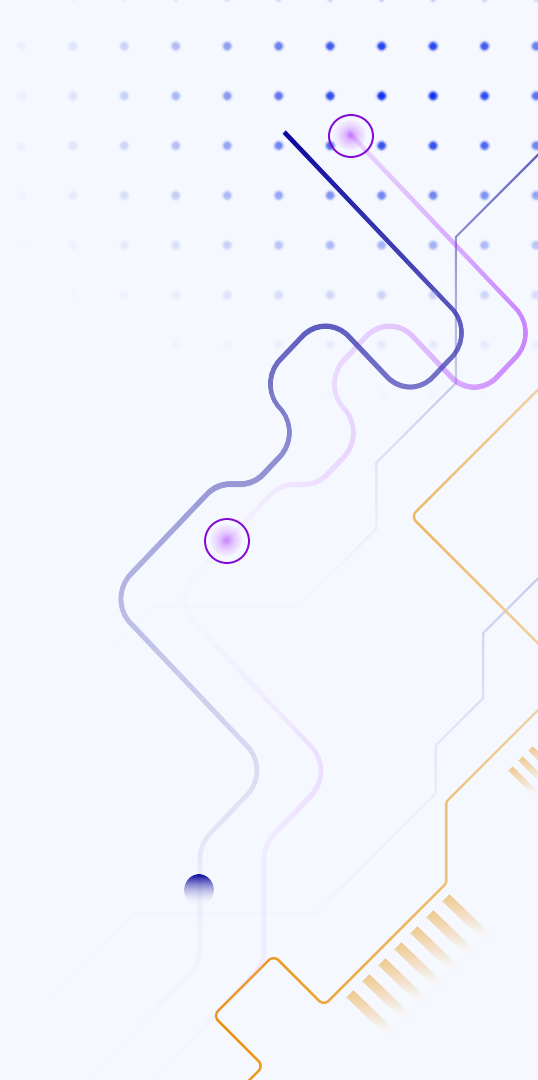
Timpi de rulare - nr. reale

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	1.5ms	0.5ms	0.3ms	1ms	1ms
N = 1e6	939ms	297ms	62ms	1344ms	1343ms
N = 1e7	30352ms	38333ms	607ms	28731ms	27891ms



04

QuickSort Median 5



Timpi de rulare - nr. intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	16ms	17ms	435ms	13ms	13ms
N = 1e6	1041ms	1068ms	>10m	1146ms	1138ms
N = 1e7	10775ms	11179ms	>10m	11648ms	11822ms

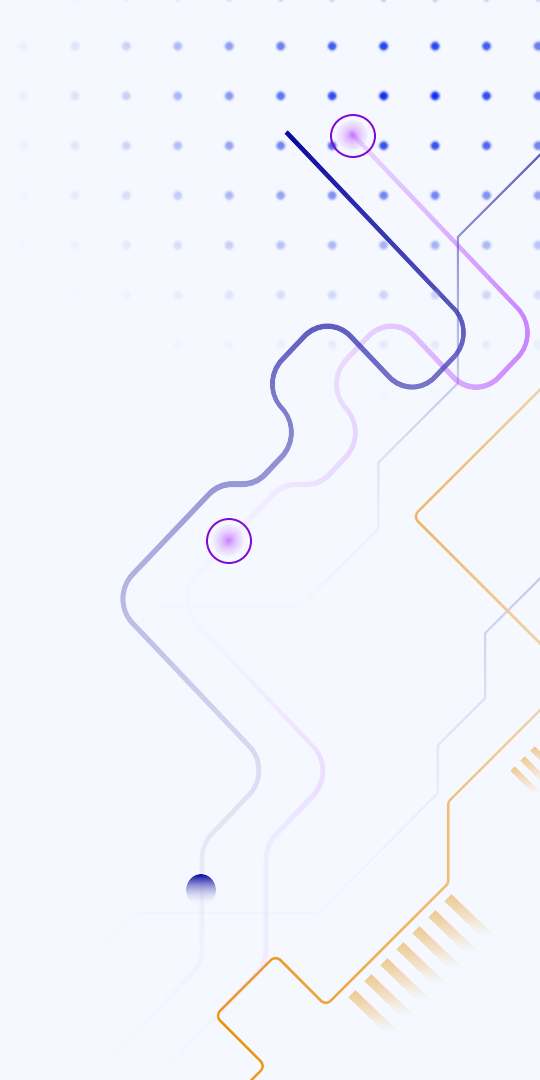
Timpi de rulare - nr. reale

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	12ms	11ms	493ms	10ms	11ms
N = 1e6	1047ms	1088ms	>10m	1174ms	1173ms
N = 1e7	10966ms	11436ms	>10m	12167ms	12119ms



04

QuickSort First Pivot



Timpi de rulare - nr. intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	422ms	257ms	425ms	1ms	1ms
N = 1e6	>10m	>10m	>10m	207ms	1170ms
N = 1e7	>10m	>10m	>10m	13062ms	15120ms

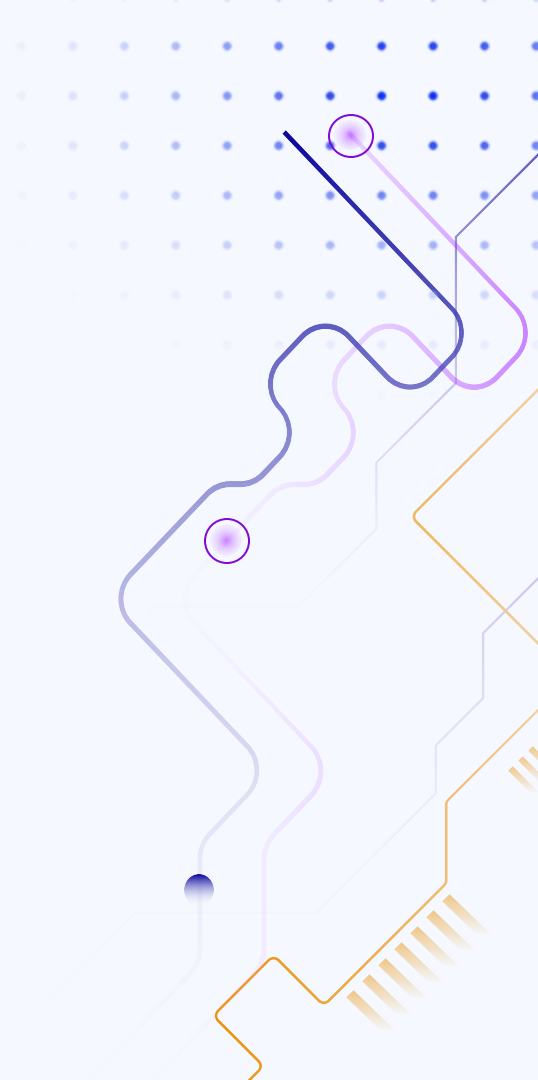
Timpi de rulare - nr. reale

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	445ms	276ms	446ms	1ms	1ms
N = 1e6	>10m	>10m	>10m	226ms	234ms
N = 1e7	>10m	>10m	>10m	13427ms	14022ms



06

RadixSort 2^{16}



Timpi de rulare - nr. intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	2ms	2ms	4ms	5ms	4ms
N = 1e6	112ms	122ms	62ms	112ms	114ms
N = 1e7	1470ms	1470ms	678ms	1495ms	1493ms

05

HeapSort



Timpi de rulare - nr. intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	5ms	4ms	0.2ms	2ms	3ms
N = 1e6	327ms	343ms	18ms	437ms	472ms
N = 1e7	4223ms	3935ms	195ms	8632ms	8382ms

Timpi de rulare - nr. reale

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	2ms	2ms	0.1ms	2ms	2ms
N = 1e6	358ms	340ms	18ms	485ms	520ms
N = 1e7	4229ms	4285ms	192ms	9106ms	9140ms

06

TimSort



Timpi de rulare - nr. intregi

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	2ms	2ms	0.7ms	3ms	1ms
N = 1e6	128ms	160ms	126ms	206ms	207ms
N = 1e7	2117ms	2844ms	1804ms	2315ms	2415ms

Timpi de rulare - nr. reale

	Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
N = 1e4	2ms	1ms	1ms	1ms	2ms
N = 1e6	158ms	179ms	162ms	218ms	204ms
N = 1e7	2255ms	2236ms	2091ms	2815ms	2528ms

Teste $N = 1e4$

Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
1) Shell Sort	1) Merge Sort	1) Heap Sort	1) Quick Sort Last Pivot	1) Quick Sort Last Pivot
2) Radix 2^{16}	2) Radix 2^{16}	2) Tim Sort	2) Heap Sort	2) Tim Sort
3) Tim Sort	3) Tim Sort	3) Shell Sort	3) Radix 10	3) Heap Sort
4) Radix 10	4) Radix 10	4) Radix 2^{16}	4) Merge Sort	4) Shell Sort
5) Heap Sort	5) Heap Sort	5) Merge Sort	5) Tim Sort	5) Radix 2^{16}
6) Merge Sort	6) Shell Sort	6) Merge Sort	6) Shell Sort	6) Radix 10
7) Quick Sort Median 5	7) Quick Sort Median 5	7) Quick Sort Last Pivot	7) Radix 2^{16}	7) Merge Sort
8) Quick Sort Last Pivot	8) Quick Sort Last Pivot	8) Quick Sort Median 5	8) Quick Sort Median 5	8) Quick Sort Median 5

Teste $N = 1e6$

Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
1) Radix 2^{16} 2) Tim Sort 3) Radix 10 4) Heap Sort 5) Merge Sort 6) Shell Sort 7) Quick sort Median 5 8) Quick Sort Last Pivot	1) Radix 2^{16} 2) Tim Sort 3) Radix 10 4) Heap Sort 5) Merge Sort 6) Shell Sort 7) Quick Sort Median 5 8) Quick Sort Last Pivot	1) Heap Sort 2) Shell Sort 3) Radix 2^{16} 4) Tim Sort 5) Radix 10 6) Merge Sort 7) Quick Sort Last Pivot 8) Quick Sort Median 5	1) Radix 2^{16} 2) Radix 10 3) Tim Sort 4) QuickSort 5) Heap Sort 6) Merge Sort 7) Quick Sort Median 5 8) Shell Sort	1) Radix 2^{16} 2) Radix 10 3) Tim Sort 4) Merge Sort 5) Heap Sort 6) Quick Sort Median 5 7) Quick Sort Last Pivot 8) Shell Sort

Teste $N = 1e7$

Vector sortat	Vector sortat inversat	Vector cu elemente egale	Vector random	Vector cu putine inversiuni
1) Radix 2^{16} 2) Tim Sort 3) Radix 10 4) Heap Sort 5) Merge Sort 6) Quick Sort Median 5 7) Shell Sort 8) Quick Sort Last Pivot	1) Radix 2^{16} 2) Radix 10 3) Tim Sort 4) Merge Sort 5) Heap Sort 6) Quick Sort Median 5 7) Shell Sort 8) Quick Sort Last Pivot	1) Heap Sort 2) Shell Sort 3) Radix 2^{16} 4) Tim Sort 5) Radix 10 6) Merge Sort 7) Quick Sort Last Pivot 8) Quick Sort Median 5	1) Radix 2^{16} 2) Radix 10 3) Tim Sort 4) QuickSort 5) Heap Sort 6) Merge Sort 7) Quick Sort Median 5 8) Shell Sort	1) Radix 2^{16} 2) Radix 10 3) Tim Sort 4) Merge Sort 5) Heap Sort 6) Quick Sort Median 5 7) Quick Sort Last Pivot 8) Shell Sort