Aléatoire

* **Taille = 1 000**

Algorithm 0:

Average CPU time: 0.002383

Average number of comparisons: 251290

Average number of swaps: 250293

Algorithm 1:

Average CPU time: 0.000161

Average number of comparisons: 8712

Average number of swaps: 993

Algorithm 2:

Average CPU time: 0.000098

Average number of comparisons: 10583

Average number of swaps: 3173

Algorithm 3:

Average CPU time: 0.001675

Average number of comparisons: 499500

Average number of swaps: 999

Algorithm 4:

Average CPU time: 0.000160

Average number of comparisons: 16941

Average number of swaps: 9122

Algorithm 5:

Average CPU time: 0.000140

Average number of comparisons: 14094

Average number of swaps: 9085

Algorithm 6:

Average CPU time: 0.002382

Average number of comparisons: 494247

Average number of swaps: 250293

* **Taille = 5 000**

Algorithm 0:

Average CPU time: 0.027133

Average number of comparisons: 6283320

Average number of swaps: 6278329

Algorithm 1:

Average CPU time: 0.000582

Average number of comparisons: 55180

Average number of swaps: 4991

Algorithm 2:

Average CPU time: 0.000385

Average number of comparisons: 69646

Average number of swaps: 18424

Algorithm 3:

Average CPU time: 0.025467

Average number of comparisons: 12497500

Average number of swaps: 4999

Algorithm 4:

Average CPU time: 0.000726

Average number of comparisons: 107709

Average number of swaps: 57138

Algorithm 5:

Average CPU time: 0.000721

Average number of comparisons: 105016

Average number of swaps: 72070

Algorithm 6:

Average CPU time: 0.055062

Average number of comparisons: 12487770

Average number of swaps: 6278329

* **Taille = 10 000**

Algorithm 0:

Average CPU time: 0.099236

Average number of comparisons: 25062611

Average number of swaps: 25052623

Algorithm 1:

Average CPU time: 0.001310

Average number of comparisons: 120390

Average number of swaps: 9987

Algorithm 2:

Average CPU time: 0.000879

Average number of comparisons: 150152

Average number of swaps: 39106

Algorithm 3:

Average CPU time: 0.101534

Average number of comparisons: 49995000

Average number of swaps: 9999

Algorithm 4:

Average CPU time: 0.001567

Average number of comparisons: 235346

Average number of swaps: 124215

Algorithm 5:

Average CPU time: 0.001562

Average number of comparisons: 229658

Average number of swaps: 158784

Algorithm 6:

Average CPU time: 0.232080

Average number of comparisons: 49978529

Average number of swaps: 25052623

* **Taille = 50 000**

Algorithm 0:

Average CPU time: 2.436068

Average number of comparisons: 627358102

Average number of swaps: 627308117

Algorithm 1:

Average CPU time: 0.007586

Average number of comparisons: 717978

Average number of swaps: 49989

Algorithm 2:

Average CPU time: 0.004862

Average number of comparisons: 889829

Average number of swaps: 223286

Algorithm 3:

Average CPU time: 2.539272

Average number of comparisons: 1249975000

Average number of swaps: 49999

Algorithm 4:

Average CPU time: 0.009215

Average number of comparisons: 1409882

Average number of swaps: 737388

Algorithm 5:

Average CPU time: 0.010599

Average number of comparisons: 1669393

Average number of swaps: 1236588

Algorithm 6:

Average CPU time: 6.300212

Average number of comparisons: 1249959069

Average number of swaps: 627308117

* **Taille = 100 000**

Algorithm 0:

Average CPU time: 9.843686

Average number of comparisons: 2499224891

Average number of swaps: 2499124912

Algorithm 1:

Average CPU time: 0.016422

Average number of comparisons: 1536326

Average number of swaps: 99982

Algorithm 2:

Average CPU time: 0.010319

Average number of comparisons: 1821018

Average number of swaps: 473277

Algorithm 3:

Average CPU time: 10.075317

Average number of comparisons: 4999950000

Average number of swaps: 99999

Algorithm 4:

Average CPU time: 0.019622

Average number of comparisons: 3019555

Average number of swaps: 1575028

Algorithm 5:

Average CPU time: 0.024470

Average number of comparisons: 4020949

Average number of swaps: 3095098

Algorithm 6:

Average CPU time: 26.191836

Average number of comparisons: 4999723872

Average number of swaps: 2499124912

Croissant

* **Taille = 1 000**

Algorithm 0:

Average CPU time: 0.000011

Average number of comparisons: 999

Average number of swaps: 0

Algorithm 1:

Average CPU time: 0.000161

Average number of comparisons: 5044

Average number of swaps: 0

Algorithm 2:

Average CPU time: 0.000062

Average number of comparisons: 9451

Average number of swaps: 976

Algorithm 3:

Average CPU time: 0.002298

Average number of comparisons: 499500

Average number of swaps: 999

Algorithm 4:

Average CPU time: 0.000190

Average number of comparisons: 17583

Average number of swaps: 9708

Algorithm 5:

Average CPU time: 0.000030

Average number of comparisons: 5457

Average number of swaps: 0

Algorithm 6:

Average CPU time: 0.000005

Average number of comparisons: 999

Average number of swaps: 0

* **Taille = 5 000**

Algorithm 0:

Average CPU time: 0.000048

Average number of comparisons: 4999

Average number of swaps: 0

Algorithm 1:

Average CPU time: 0.000670

Average number of comparisons: 32004

Average number of swaps: 0

Algorithm 2:

Average CPU time: 0.000272

Average number of comparisons: 57963

Average number of swaps: 4094

Algorithm 3:

Average CPU time: 0.027198

Average number of comparisons: 12497500

Average number of swaps: 4999

Algorithm 4:

Average CPU time: 0.000605

Average number of comparisons: 112126

Average number of swaps: 60932

Algorithm 5:

Average CPU time: 0.000110

Average number of comparisons: 35084

Average number of swaps: 0

Algorithm 6:

Average CPU time: 0.000013

Average number of comparisons: 4999

Average number of swaps: 0

* **Taille = 10 000**

Algorithm 0:

Average CPU time: 0.000095

Average number of comparisons: 9999

Average number of swaps: 0

Algorithm 1:

Average CPU time: 0.001311

Average number of comparisons: 69008

Average number of swaps: 0

Algorithm 2:

Average CPU time: 0.000535

Average number of comparisons: 125916

Average number of swaps: 8190

Algorithm 3:

Average CPU time: 0.102504

Average number of comparisons: 49995000

Average number of swaps: 9999

Algorithm 4:

Average CPU time: 0.001304

Average number of comparisons: 244460

Average number of swaps: 131956

Algorithm 5:

Average CPU time: 0.000222

Average number of comparisons: 75243

Average number of swaps: 0

Algorithm 6:

Average CPU time: 0.000025

Average number of comparisons: 9999

Average number of swaps: 0

* **Taille = 50 000**

Algorithm 0:

Average CPU time: 0.000431

Average number of comparisons: 49999

Average number of swaps: 0

Algorithm 1:

Average CPU time: 0.005267

Average number of comparisons: 401952

Average number of swaps: 0

Algorithm 2:

Average CPU time: 0.001872

Average number of comparisons: 736177

Average number of swaps: 34464

Algorithm 3:

Average CPU time: 2.515355

Average number of comparisons: 1249975000

Average number of swaps: 49999

Algorithm 4:

Average CPU time: 0.007180

Average number of comparisons: 1455438

Average number of swaps: 773304

Algorithm 5:

Average CPU time: 0.001315

Average number of comparisons: 455719

Average number of swaps: 0

Algorithm 6:

Average CPU time: 0.000115

Average number of comparisons: 49999

Average number of swaps: 0

* **Taille = 100 000**

Algorithm 0:

Average CPU time: 0.000763

Average number of comparisons: 99999

Average number of swaps: 0

Algorithm 1:

Average CPU time: 0.009129

Average number of comparisons: 853904

Average number of swaps: 0

Algorithm 2:

Average CPU time: 0.003386

Average number of comparisons: 1572338

Average number of swaps: 68928

Algorithm 3:

Average CPU time: 10.068484

Average number of comparisons: 4999950000

Average number of swaps: 99999

Algorithm 4:

Average CPU time: 0.015119

Average number of comparisons: 3112517

Average number of swaps: 1650854

Algorithm 5:

Average CPU time: 0.002798

Average number of comparisons: 967146

Average number of swaps: 0

Algorithm 6:

Average CPU time: 0.000232

Average number of comparisons: 99999

Average number of swaps: 0

Décroissant

* **Taille = 1 000**

Algorithm 0:

Average CPU time: 0.004044

Average number of comparisons: 499500

Average number of swaps: 499500

Algorithm 1:

Average CPU time: 0.000076

Average number of comparisons: 4932

Average number of swaps: 500

Algorithm 2:

Average CPU time: 0.000051

Average number of comparisons: 13135

Average number of swaps: 2467

Algorithm 3:

Average CPU time: 0.001518

Average number of comparisons: 499500

Average number of swaps: 999

Algorithm 4:

Average CPU time: 0.000123

Average number of comparisons: 15965

Average number of swaps: 8316

Algorithm 5:

Average CPU time: 0.000045

Average number of comparisons: 8550

Average number of swaps: 3920

Algorithm 6:

Average CPU time: 0.002173

Average number of comparisons: 499500

Average number of swaps: 499500

* **Taille = 5 000**

Algorithm 0:

Average CPU time: 0.051181

Average number of comparisons: 12497500

Average number of swaps: 12497500

Algorithm 1:

Average CPU time: 0.000297

Average number of comparisons: 29804

Average number of swaps: 2500

Algorithm 2:

Average CPU time: 0.000210

Average number of comparisons: 87123

Average number of swaps: 11666

Algorithm 3:

Average CPU time: 0.027042

Average number of comparisons: 12497500

Average number of swaps: 4999

Algorithm 4:

Average CPU time: 0.000579

Average number of comparisons: 103227

Average number of swaps: 53436

Algorithm 5:

Average CPU time: 0.000209

Average number of comparisons: 51491

Average number of swaps: 19212

Algorithm 6:

Average CPU time: 0.044859

Average number of comparisons: 12497500

Average number of swaps: 12497500

* **Taille = 10 000**

Algorithm 0:

Average CPU time: 0.196718

Average number of comparisons: 49995000

Average number of swaps: 49995000

Algorithm 1:

Average CPU time: 0.000619

Average number of comparisons: 64608

Average number of swaps: 5000

Algorithm 2:

Average CPU time: 0.000467

Average number of comparisons: 193981

Average number of swaps: 23376

Algorithm 3:

Average CPU time: 0.107498

Average number of comparisons: 49995000

Average number of swaps: 9999

Algorithm 4:

Average CPU time: 0.001244

Average number of comparisons: 226682

Average number of swaps: 116696

Algorithm 5:

Average CPU time: 0.000450

Average number of comparisons: 120190

Average number of swaps: 53704

Algorithm 6:

Average CPU time: 0.179672

Average number of comparisons: 49995000

Average number of swaps: 49995000

* **Taille = 50 000**

Algorithm 0:

Average CPU time: 4.884923

Average number of comparisons: 1249975000

Average number of swaps: 1249975000

Algorithm 1:

Average CPU time: 0.003658

Average number of comparisons: 382512

Average number of swaps: 25000

Algorithm 2:

Average CPU time: 0.002820

Average number of comparisons: 1210382

Average number of swaps: 124095

Algorithm 3:

Average CPU time: 2.737718

Average number of comparisons: 1249975000

Average number of swaps: 49999

Algorithm 4:

Average CPU time: 0.007005

Average number of comparisons: 1366047

Average number of swaps: 698892

Algorithm 5:

Average CPU time: 0.002558

Average number of comparisons: 689218

Average number of swaps: 270768

Algorithm 6:

Average CPU time: 4.590988

Average number of comparisons: 1249975000

Average number of swaps: 1249975000

* **Taille = 100 000**

Algorithm 0:

Average CPU time: 19.807579

Average number of comparisons: 4999950000

Average number of swaps: 4999950000

Algorithm 1:

Average CPU time: 0.007839

Average number of comparisons: 815024

Average number of swaps: 50000

Algorithm 2:

Average CPU time: 0.006023

Average number of comparisons: 2620334

Average number of swaps: 248243

Algorithm 3:

Average CPU time: 10.970817

Average number of comparisons: 4999950000

Average number of swaps: 99999

Algorithm 4:

Average CPU time: 0.014692

Average number of comparisons: 2926640

Average number of swaps: 1497434

Algorithm 5:

Average CPU time: 0.005488

Average number of comparisons: 1533494

Average number of swaps: 619654

Algorithm 6:

Average CPU time: 18.677686

Average number of comparisons: 4999950000

Average number of swaps: 4999950000