# Analiza empirică a metodelor de sortare **Bubble sort** și **Merge sort**

Ambele metode au fost rulate de 5 ori pentru fiecare număr de elemente N. Timpul a fost măsurat în secunde.

# **Bubble sort:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **N**  **Nr. Ord** | **100** | **1000** | **10000** | **10000** |
| **1** | 0.000097 s | 0.003705 s | 0.230331 s | 25.481645 s |
| **2** | 0.000086 s | 0.003436 s | 0.234421 s | 24.076035 s |
| **3** | 0.000046 s | 0.003419 s | 0.238511 s | 24.279677 s |
| **4** | 0.000055 s | 0.003432 s | 0.232235 s | 23.851902 s |
| **5** | 0.000086 s | 0.003431 s | 0.233079 s | 23.420929 s |
| **Media** | **0.000074 s** | **0.0034846 s** | **0.2337154 s** | **24.2219068 s** |

# **Merge sort:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **N**  **Nr. Ord** | **100** | **1000** | **10000** | **10000** |
| **1** | 0.000025 s | 0.000147 s | 0.002757 s | 0.017748 s |
| **2** | 0.000017 s | 0.000148 s | 0.001704 s | 0.018065 s |
| **3** | 0.000016 s | 0.000204 s | 0.001757 s | 0.023031 s |
| **4** | 0.000029 s | 0.000334 s | 0.002141 s | 0.019495 s |
| **5** | 0.000016 s | 0.000291 s | 0.002152 s | 0.017761 s |
| **Media** | **0.0000206 s** | **0.0002248 s** | **0.0021022 s** | **0.0191664 s** |

# **Concluzie**

Metoda **Merge sort** este o metodă de sortare mai eficientă decât **Bubble sort.**