Activity 1. Measurement with currentTimeMillis()

A long variable of 64 bits can contain 2^64 different values (miliseconds), we transform it into seconds, minutes, years.

From the 1st of January of 1970

Activity 2. Vector 2

Sometimes the value is 0 as the program is too fast for a “low” n, for being accurate enough we need a n >= 12750000

Activity 3. Taking small execution times

If the problem size is multiplied by 2, the execution time in this algorithm is also multiplied by 2.

Same if instead of k=2, k=any, the time also increases k times

Activity 4. Tables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **n (104)** | **Tsum (mS)** | **Tmaximum (mS)** | **Tmatches1 (mS)** | **Tmatches2 (mS)** |
| 1 | 0.0386 | 0.061 | 504.4 | 0.063 |
| 2 | 0.0764 | 0.11 | 2011.1 | 0.114 |
| 4 | 0.1521 | 0.224 | 8067 | 0.226 |
| 8 | 0.3077 | 0.44 | 32506 | 0.454 |
| 16 | 0.6095 | 0.884 | OoT | 0.903 |
| 32 | 1.2177 | 1.75 | OoT | 1.807 |
| 64 | 2.4702 | 3.537 | OoT | 3.640 |
| 128 | 4.9133 | 7.044 | OoT | 7.261 |
| 256 | 9.741 | 14.19 | OoT | 14.676 |
| 512 | 19.625 | 28.2 | OoT | 29.525 |
| 1024 | 39.674 | 56.7 | OoT | 58.9 |
| 2048 | 79.17 | 113.8 | OoT | 118.5 |
| 4096 | 157.98 | 228.2 | OoT | 235.6 |
| 8192 | 316.24 | 458.8 | OoT | 471.6 |

The expected results are similar as the ones obtained