Activity 2. Divide and Conquer by subtraction

In subtraction 1 the stack overflows at n = 8192

In subtraction 2 the stack overflows at n = 8192

Subtraction 3 - n=20\*\*TIME=60\*\*cont=1

That is 2,79\*109 years

|  |  |
| --- | --- |
| N | tSubtraction4 |
| 100 | 5 |
| 200 | 39 |
| 400 | 294 |
| 800 | 2330 |
| 1600 | 18707 |

|  |  |
| --- | --- |
| N | tSubtraction5 |
| 30 | 625 |
| 32 | 1887 |
| 34 | 5642 |
| 36 | 16661 |

Activity 3. Divide and conquer by division

|  |  |  |
| --- | --- | --- |
| N | tDivision4 | tDivision5 |
| 1000 | 22 | 56 |
| 2000 | 76 | 211 |
| 4000 | 301 | 796 |
| 8000 | 1179 | 3158 |
| 16000 | 4706 | 13036 |
| 32000 | 19484 | 52151 |
| 64000 | OoT | OoT |

Activity 4. Two basic examples

|  |  |  |  |
| --- | --- | --- | --- |
| N | tVectorSum1 | tVectorSum2 | tVectorSum3 |
| 3 | 0,000056 | 0,000110 | 0,000135 |
| 6 | 0,000079 | 0,000174 | 0,000236 |
| 12 | 0,000139 | 0,000290 | 0,000639 |
| 24 | 0,000245 | 0,000561 | 0,001012 |
| 48 | 0,000440 | 0,001088 | 0,002040 |
| 96 | 0,000842 | 0,002233 | 0,007619 |
| 192 | 0,001707 | 0,004980 | 0,011321 |
| 384 | 0,003505 | 0,010963 | 0,017985 |
| 768 | 0,006683 | 0,020522 | 0,045366 |
| 1536 | 0,013219 | 0,043699 | 0,098992 |
| 3072 | 0,026647 | 0,087821 | 0,202679 |
| 6144 | 0,052885 | 0,183813 | 0,322595 |
| 12288 | 0,103282 | Out of memory | Out of time |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| N | tFibonacci1 | tFibonacci2 | tFibonacci3 | tFibonacci4 |
| 10 | 0,000132 | 0,000178 | 0,000243 | 0,0033 |
| 15 | 0,000178 | 0,000249 | 0,000332 | 0,0336 |
| 20 | 0,000224 | 0,000335 | 0,000432 | 0,3942 |
| 25 | 0,000273 | 0,000399 | 0,000519 | 5,9885 |
| 30 | 0,000331 | 0,000467 | 0,000617 | 49,4352 |
| 35 | 0,000373 | 0,000541 | 0,000728 | Out of time |
| 40 | 0,000412 | 0,000615 | 0,000832 | Out of time |
| 45 | 0,000484 | 0,000686 | 0,001641 | Out of time |
| 50 | 0,000511 | 0,000761 | 0,001587 | Out of time |
| 55 | 0,000820 | 0,000836 | 0,001140 | Out of time |
| 59 | 0,000595 | 0,000893 | 0,001235 | Out of time |