Activity 1. [TITLE OF THE ACTIVITY]

Loop 1 (n^2 \* log(n)):

n time repetions counter

100 52 5000 603

200 104 5000 1340

400 218 5000 2937

800 518 5000 6942

1600 1127 5000 14938

3200 2376 5000 32010

6400 5011 5000 68272

12800 12584 5000 153612

25600 23760 5000 324273

51200 51520 5000 682680

Loop 2(log3(n) \* n^2):

n time repetions counter

100 51 150 25500

200 192 150 101000

400 905 150 482400

800 4112 150 2245600

1600 18195 150 8971200

3200 76491 150 40985600

Loop 3:

n time repetions counter

100 53 40 71400

200 213 40 323200

400 914 40 1447200

800 5170 40 6416000

1600 17000 40 28195200

Loop 4(n^3):

n time repetions counter

100 50 40 171700

200 360 40 1353400

400 2782 40 10746800

800 22021 40 85653600

Activity 2. [TITLE OF THE ACTIVITY]

Loop 5:

n time repetions counter

100 54 45 84379

200 261 45 453287

400 1323 45 2360752

800 6525 45 11968002

1600 32238 45 59294685

Loop 6:

n time repetions counter

100 49 5 805903

200 398 5 7594028

400 4306 5 70524793

800 37874 5 645343578

Loop 7:

n time repetions counter

100 66 2 4421275

200 974 2 68685050

400 14026 2 1082740100

Activity 3. [TITLE OF THE ACTIVITY]

Loop1:

n time repetions counter

100 98 10000 603

200 204 10000 1340

400 435 10000 2937

800 1023 10000 6942

1600 2195 10000 14938

3200 4699 10000 32010

6400 10006 10000 68272

12800 22604 10000 153612

25600 47503 10000 324273

Loop2:

n time repetions counter

100 70 200 25500

200 254 200 101000

400 1306 200 482400

800 7801 200 2245600

1600 30609 200 8971200

|  |  |  |  |
| --- | --- | --- | --- |
| n | L1 | L2 | t1/t2 |
| 100 | 0,0098 | 0,35 | 0,028 |
| 200 | 0,0204 | 1,27 | 0,016 |
| 400 | 0,0435 | 6,53 | 0,007 |
| 800 | 0,1023 | 39,005 | 0,003 |
| 1600 | 0,2195 | 153,045 | 0,0014 |
| 3200 | 0,4699 |  |  |
| 6400 | 1,0006 |  |  |
| 12800 | 2,2604 |  |  |
| 25600 | 4,7503 |  |  |

Loop3:

n time repetions counter

100 126 100 71400

200 522 100 323200

400 2260 100 1447200

800 9799 100 6416000

1600 42127 100 28195200

3200 18088 10 122956800

3200 4991 10 40985600

|  |  |  |  |
| --- | --- | --- | --- |
| n | L3 | L2 | t1/t2 |
| 100 | 1,26 | 0,35 | 3,6 |
| 200 | 5,22 | 1,27 | 4,11 |
| 400 | 22,6 | 6,53 | 3,46 |
| 800 | 97,99 | 39,005 | 2,51 |
| 1600 | 421,27 | 153,045 | 2,75 |
| 3200 | 1808,8 | 499,1 | 3,62 |

Activity 4. [TITLE OF THE ACTIVITY]

Loop4 without optimizacion:

n time repetions counter

100 50 40 171700

200 361 40 1353400

400 2775 40 10746800

800 21840 40 85653600

Loop4 with optimizacion:

n time repetions counter

100 227 10000 171700

200 1038 10000 1353400

400 6365 10000 10746800

800 44187 10000 85653600

Loop4 python:

TIME (milliseconds)

n= 100 \*\*time= 7 \*\*counter= 171700

n= 200 \*\*time= 107 \*\*counter= 1353400

n= 400 \*\*time= 413 \*\*counter= 10746800

n= 800 \*\*time= 3889 \*\*counter= 85653600

n= 1600 \*\*time= 28840 \*\*counter= 683947200