Activity 1. [Problem Size]

|  |  |
| --- | --- |
| **n** | **time(ms)** |
| 10000 | 4491 |
| 20000 | 18097 |
| 40000 | OoT |
| 80000 | OoT |
| 16000 | OoT |
| 32000 | OoT |

Activity 2. [computer performance]

CPU1: 12th Gen Intel(R) Core(TM) i5-12400 2.50 GHz

RAM1: 16,0 GB

CPU2: Intel(R) Core(TM) i5-8250U CPU @ 1.60GHz

RAM2: 16,0 GB

|  |  |
| --- | --- |
| PYTHON1 | |
| **n** | **time(ms)** |
| 10000 | 4491 |
| 20000 | 18097 |
| 40000 | OoT |
| 80000 | OoT |
| 16000 | OoT |
| 32000 | OoT |

|  |  |
| --- | --- |
| PYTHON2 | |
| **n** | **time(ms)** |
| 10000 | 3345 |
| 20000 | 15636 |
| 40000 | OoT |
| 80000 | OoT |
| 16000 | OoT |
| 32000 | OoT |

Activity 3. [implementation environment]

|  |  |
| --- | --- |
| JAVA1 | |
| **n** | **time(ms)** |
| 10000 | 73 |
| 20000 | 290 |
| 40000 | 1107 |
| 80000 | 4501 |
| 16000 | 17838 |
| 32000 | OoT |

|  |  |
| --- | --- |
| PYTHON1 | |
| **n** | **time(ms)** |
| 10000 | 4491 |
| 20000 | 18097 |
| 40000 | OoT |
| 80000 | OoT |
| 16000 | OoT |
| 32000 | OoT |

Activity 4. [algorithm that is used]

|  |  |
| --- | --- |
| PYTHON2 | |
| **n** | **time(ms)** |
| 10000 | 395 |
| 20000 | 1709 |
| 40000 | 6761 |
| 80000 | 26471 |
| 16000 | OoT |
| 32000 | OoT |
|  |  |

|  |  |
| --- | --- |
| PYTHON1 | |
| **n** | **time(ms)** |
| 10000 | 3345 |
| 20000 | 15636 |
| 40000 | OoT |
| 80000 | OoT |
| 16000 | OoT |
| 32000 | OoT |
| PYTHON3 | |
| **n** | **time(ms)** |
| 10000 | 193 |
| 20000 | 706 |
| 40000 | 2881 |
| 80000 | 13049 |
| 16000 | 58530 |
| 32000 | OoT |
|  |  |

|  |  |
| --- | --- |
| JAVA2 OPTIMITATION | |
| **n** | **time(ms)** |
| 10000 | 18 |
| 20000 | 53 |
| 40000 | 191 |
| 80000 | 707 |
| 16000 | 2673 |
| 32000 | 11298 |
| 6400 | 42859 |

|  |  |
| --- | --- |
| JAVA3 OPTIMITATION | |
| **n** | **time(ms)** |
| 10000 | 13 |
| 20000 | 34 |
| 40000 | 127 |
| 80000 | 466 |
| 16000 | 1569 |
| 32000 | 5873 |
| 64000 | 27377 |

|  |  |
| --- | --- |
| JAVA1 OPTIMITATION | |
| **n** | **time(ms)** |
| 10000 | 133 |
| 20000 | 505 |
| 40000 | 1978 |
| 80000 | 7907 |
| 16000 | 32440 |
|  |  |

|  |  |
| --- | --- |
| JAVA2 NO OPTIMITATION | |
| **n** | **time(ms)** |
| 10000 | 57 |
| 20000 | 212 |
| 40000 | 733 |
| 80000 | 3050 |
| 16000 | 13279 |
| 32000 | 40502 |
|  |  |

|  |  |
| --- | --- |
| JAVA3 NO OPTIMITATION | |
| **n** | **time(ms)** |
| 10000 | 43 |
| 20000 | 147 |
| 40000 | 541 |
| 80000 | 2140 |
| 16000 | 9248 |
| 32000 | 44498 |

|  |  |
| --- | --- |
| JAVA1 NO OPTIMITATION | |
| **n** | **time(ms)** |
| 10000 | 471 |
| 20000 | 1855 |
| 40000 | 7420 |
| 80000 | 28975 |
|  |  |