# Mini-Project (Part 1)

## Parameters (default in code):

* pRE = 1000
* pIM = 1000
* iterations = 100
* threshold = 2

## Performance Comparison

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| **Algorithm** | **Script location (root)** | **Computation Time (s)** |
| Naive | *mandelbrot\_naive.py* | 3.91s |
| Numpy vectorized | *mandelbrot\_numpy.py* | 2.12s |
| Numba-optimized | *mandelbrot\_numba.py* | 1.39s |
| Multiprocessing | *mandelbrot\_multicore.py* |  |

## Analysis of Multiprocessing Implementation

**Optimal chunk size in relation to number of processes based on computation time:**

**Performance results of different chunk sizes and processor amount**

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| **Number of processors** | **Chunk Size** | **Computation Time (s)** |
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