Strategy

As we were concerned with accelerating the execution time of puzzler::Puzzle::Execute , we tried to identify all the major hotspots inside the Execute function call of the puzzles.

Each of the matrix\_exponent, string\_search, option\_explicit and life kernels have their own implementations of execute and therefore take different time to execute for the same parameters (scale).

Puzzles Reference (Black) and Open CL (red) Execution time for different scales on an intel i7 CPU (2.7Ghz 4 cores) are shown below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 10 | 100 | 1000 |
| Matrix exponent | 1.0ms | 1020 ms -> 483 ms | 05h06mins |
| Life | 1.0ms | 261 ms | 7min50 |
| Circuit sim | 1.0ms | 13ms | 1015 ms |
| Option explicit | 1.0ms | <1.0ms | 13 ms |
| String search | 1.0ms | <1.0ms | 9.0ms |