Comparison performance report

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To evaluate the performance using different amounts of threads, the following settings were applied:

Resolution: 1920x1080
Number of iterations: 30.000
Number of initial points: 20
Number of linear transformations: 4
Symmetry parameter: 4
Number of threads: 1-6

To compare the performance, the following procedure was chosen: generate 20 similar fractals 5 times in a row with the specific settings, and find t_{avg}:

$$t_{avg} = \frac{t_{total} - t_{best} - t_{worst}}{60}$$

where
t_{total} is the total execution time for 5 by 20 generations (100 generations in total),
t_{best} is the best execution time among these 5 tries
t_{worst} is the worst execution time among these 5 tries
Thus, only 60 generations were considered (5x20-20-20 = 60)

Results:
Diamond Transformation:
1 thread: $t_{avg} = 824ms$
2 threads: $t_{avg} = 756ms(-8\%)$
3 threads: $t_{avg} = 687ms(-10\%)$
4 threads: $t_{avg} = 653ms(-5\%)$
5 threads: $t_{avg} = 578ms(-12\%)$
6 threads: $t_{avg} = 985ms(+70\%)$

Bubble Transformation:
1 thread: $t_{avg} = 455ms$
2 threads: $t_{avg} = 420ms(-8\%)$
3 threads: $t_{avg} = 370ms(-12\%)$
4 threads: $t_{avg} = 528ms(+42\%)$
5 threads: $t_{avg} = 403ms(-24\%)$
6 threads: $t_{avg} = 663ms(+64\%)$

Exponential Transformation:
1 thread: $t_{avg} = 715ms$
2 threads: $t_{avg} = 678ms(-6\%)$
3 threads: $t_{avg} = 652ms(-4\%)$
4 threads: $t_{avg} = 704ms(+7\%)$
5 threads: $t_{avg} = 836ms(+18\%)$
6 threads: $t_{avg} = 1014ms(+21\%)$

Fisheye Transformation:
1 thread: $t_{avg} = 423ms$
2 threads: $t_{avg} = 407ms(-4\%)$
3 threads: $t_{avg} = 390ms(-5\%)$
4 threads: $t_{avg} = 490ms(+25\%)$
5 threads: $t_{avg} = 544ms(+11\%)$
6 threads: $t_{avg} = 632ms(+16\%)$

Rays Transformation:
1 thread: $t_{avg} = 531ms$
2 threads: $t_{avg} = 551ms(+3\%)$
3 threads: $t_{avg} = 476ms(-14\%)$
4 threads: $t_{avg} = 450ms(-6\%)$
5 threads: $t_{avg} = 699ms(+55\%)$
6 threads: $t_{avg} = 822ms(+16\%)$