

My partner is Mayowa Ayeni

RUNTIME (DOUBLES)

FRAMES	RESOLUTION	RUNTIME
30	640 x 360	0.003074
30	1280 x 720	0.011665
30	1920 x 1080	0.025645
30	2560 x 1440	0.044989
30	3840 x 2160	0.099644
60	640 x 360	0.006084
60	1280 x 720	0.023227
60	1920 x 1080	0.051256
60	2560 x 1440	0.089905
60	3840 x 2160	0.193351

RUNTIME (FLOATS)

FRAMES	RESOLUTION	RUNTIME
30	640 x 360	0.001438
30	1280 x 720	0.005347
30	1920 x 1080	0.011652
30	2560 x 1440	0.020414
30	3840 x 2160	0.045368
60	640 x 360	0.002790
60	1280 x 720	0.010562
60	1920 x 1080	0.023205
60	2560 x 1440	0.040944
60	3840 x 2160	0.090651

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Bonus:

As seen from the tables, for the floats it seems to have roughly halved the runtime for each problem size then compared to doubles. This may be since floats are single precision and doubles are double precision. Thus there is a halved runtime for floats when compared to doubles. Also for GPUs, the majority of the ALU is devoted to floating point computation, meaning that the floating point code is easier to compute compared to the double code.