The conclusions of first homework in advance arch. Course

Advisor: Dr. Farshad Khunjush
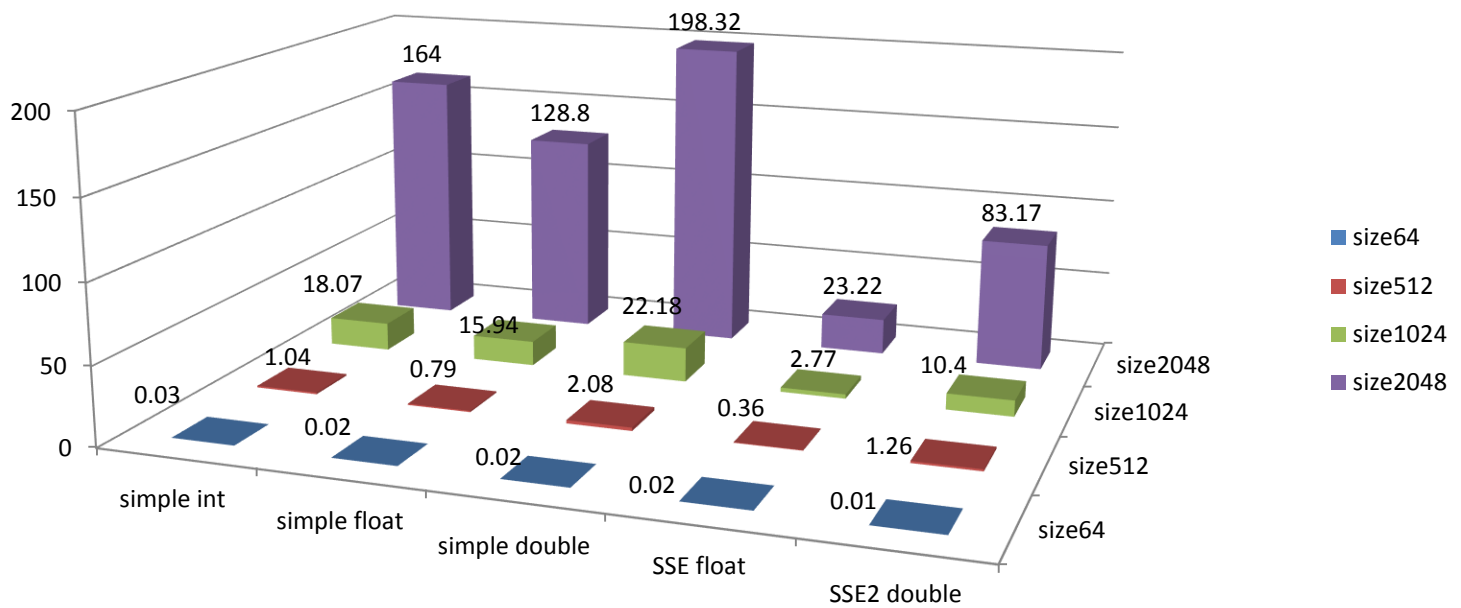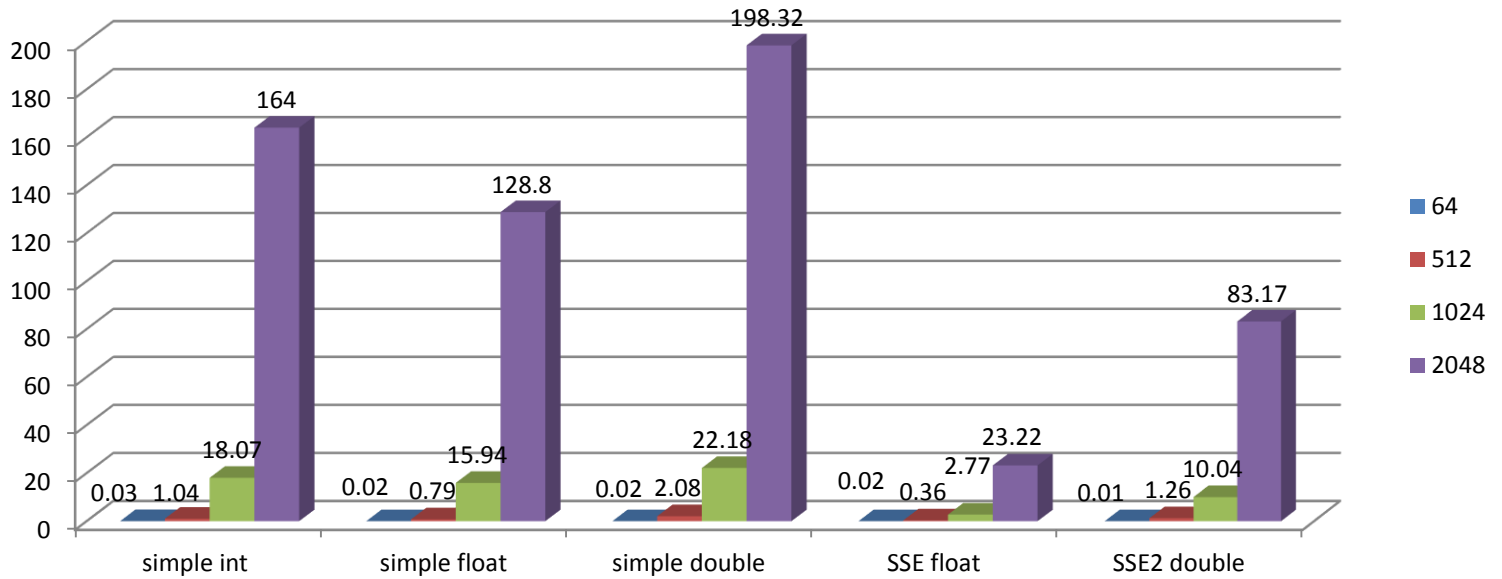
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## System Configuration

Intel(R) Core(TM) Processor Family with 2.1 GHz Frequency, 2 Logical CPU 2GB RAM.
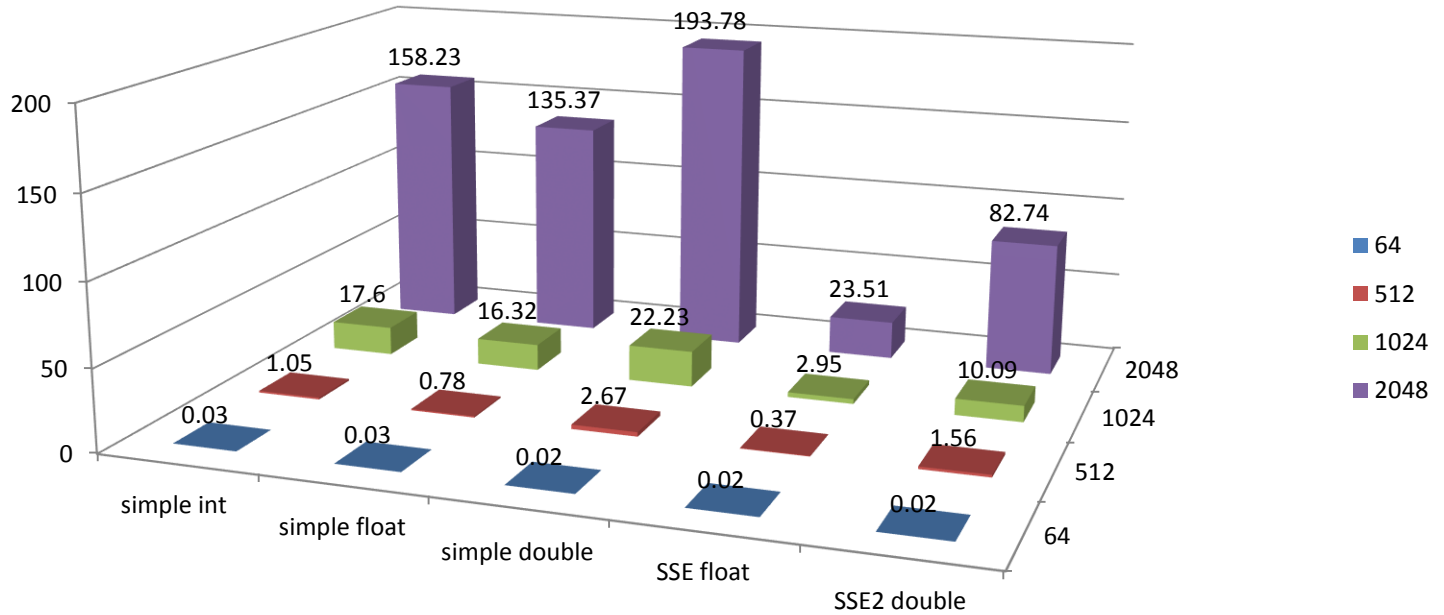
Compiler optimize on -O3

Matrix Multiplication (Second)	Square Matrix			
	64x64	512x512	1024x1024	2048x2048
Simple -integer	0.03	1.04	18.07	164
Simple- float	0.02	0.79	15.94	128.8
Simple -double	0.02	2.08	22.18	198.32
SSE instructions - float	0.02	0.36	2.77	23.22
SSE2 instructions - double	0.01	1.26	10.04	83.17

Compiler optimize on –O
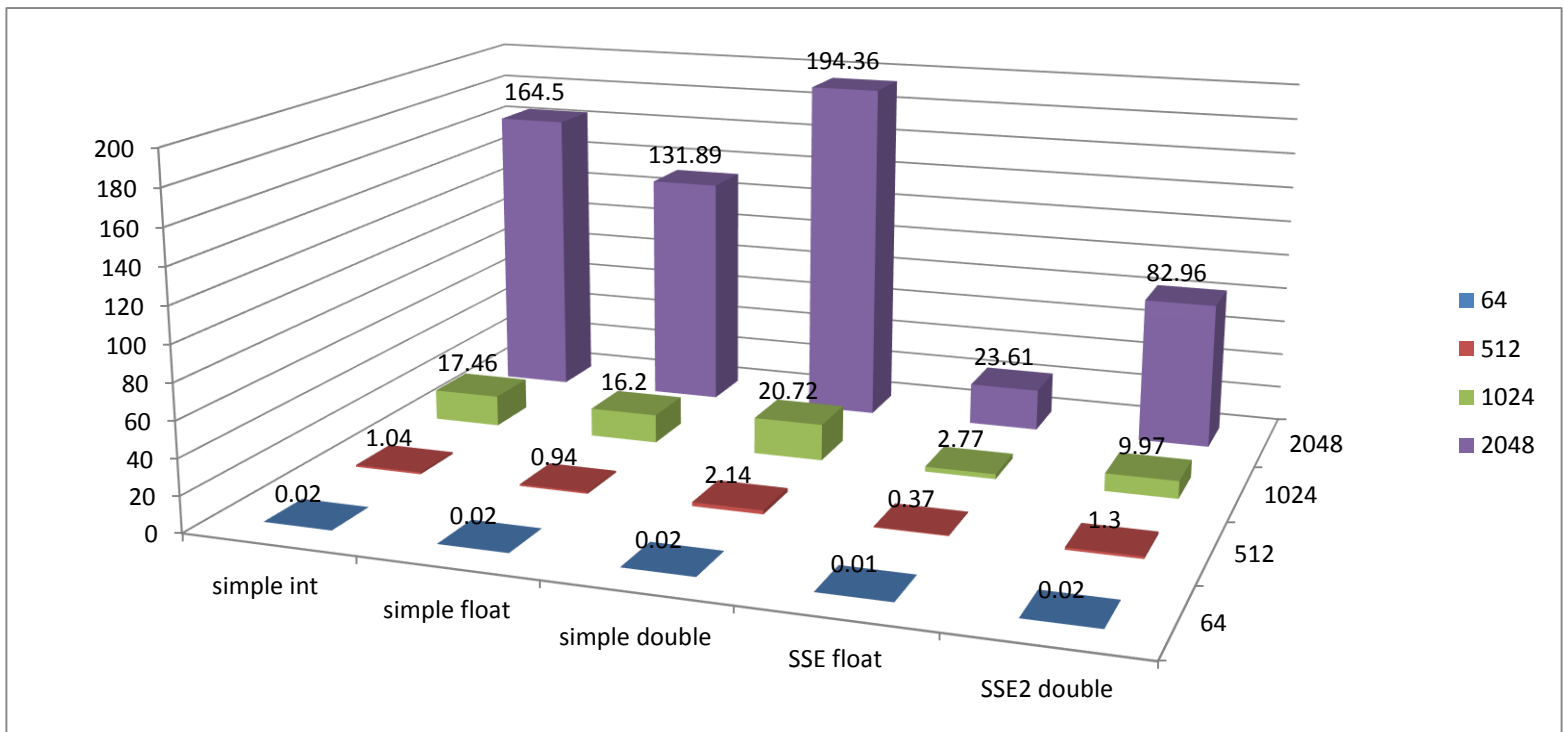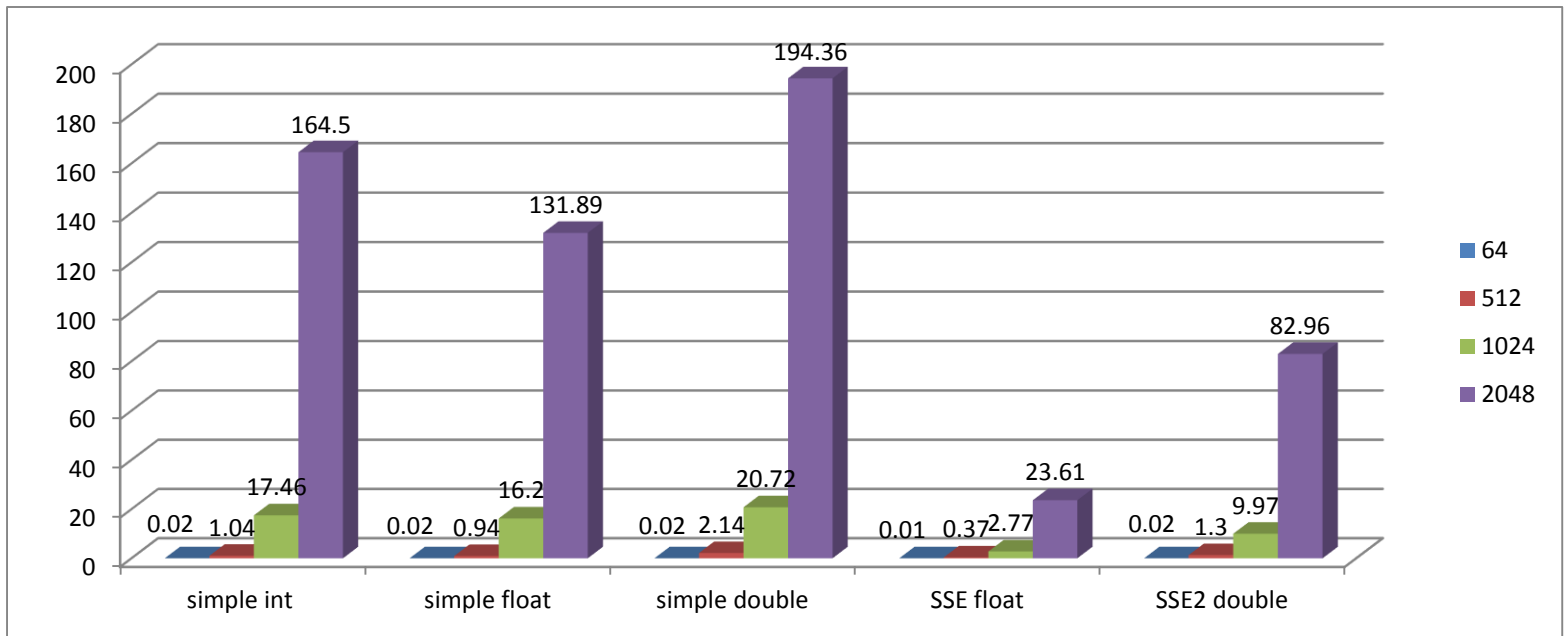
Matrix Multiplication (Second)	Square Matrix			
	64x64	512x512	1024x1024	2048x2048
simple - integer	0.02	1.04	17.46	164.5
simple - float	0.02	0.94	16.2	131.89
simple - double	0.02	2.14	20.72	194.36
SSE instructions - float	0.01	0.37	2.77	23.61
SSE2 instructions - double	0.02	1.3	9.97	82.96

Compiler optimize on –O2
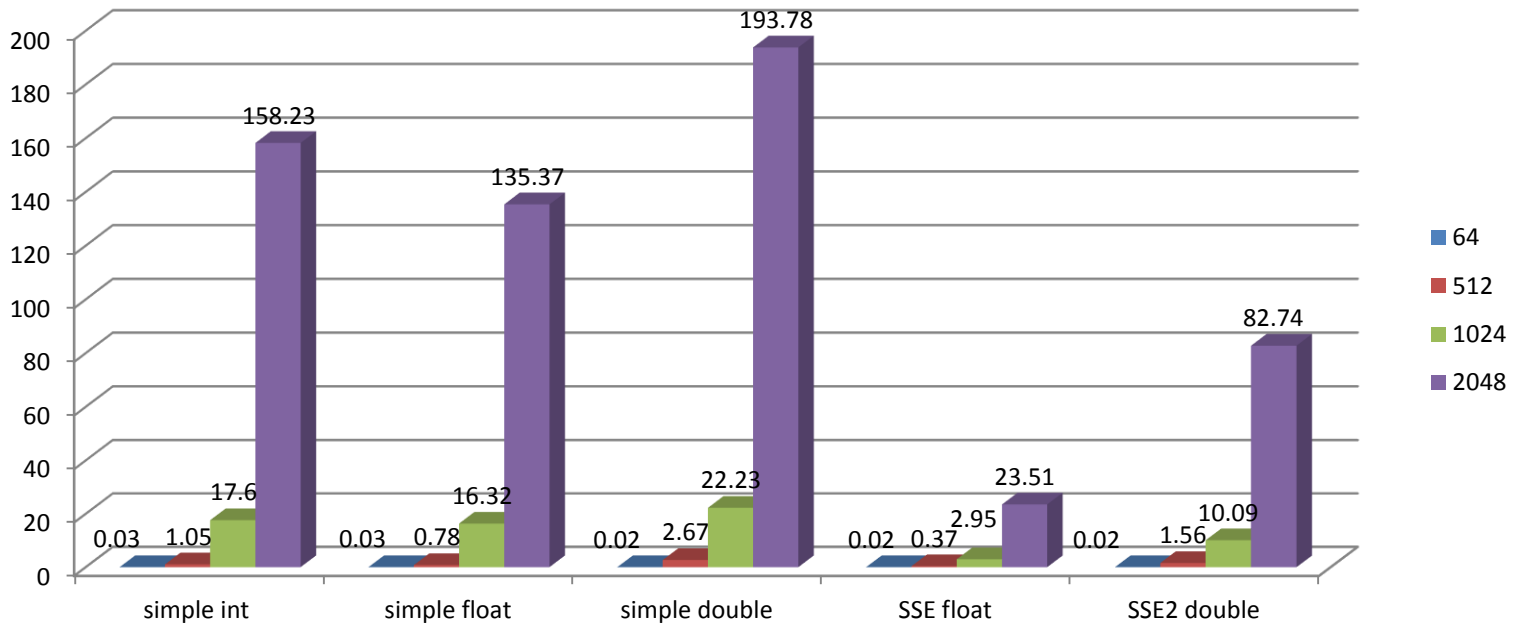
Matrix Multiplication (Second)	Square Matrix			
	64x64	512x512	1024x1024	2048x2048
simple - integer	0.03	1.05	17.6	158.23
simple - float	0.03	0.78	16.32	135.37
simple - double	0.02	2.67	22.23	193.78
SSE instruction - float	0.02	0.37	2.95	23.51
SSE2 instructions - double	0.02	1.56	10.09	82.74

Compare between Compiler optimization