

Computer Organization II

Benchmarking Project

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Computer Specification

- The brand of CPU: Intel
- The model of CPU: Intel Core i7-1250U
- The number of cores on CPU: 10 cores (2 performance cores and 8 efficiency cores)
- The clock rate of CPU in GHz: Base frequency of 1.1 GHz, with turbo boost up to 4.7 GHz
- The amount of memory in GB : 8GB
- The speed of memory: DDR5 SDRAM
- The capacity of hard drive: 5200 MT/s
- The type of hard drive: SSD
- For SSD, provide
  - Max sequential read speed: Up to 3500 MB/s
  - Max sequential write speed: Up to 3000 MB/s
  - Max random read speed: Up to 500,000 IOPS
  - Max random write speed: Up to 450,000 IOPS

Screenshot for the results

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Benchmark 1:
32-bit Integer operation benchmark
Which includes additions, multiplication, and division' is: 6.88351 seconds
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Benchmark 2:
64-bit Floating point operation benchmark
Which includes additions, multiplication, and division' is: 9.15046 seconds
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Benchmark 3:
Memory benchmark
Which includes reading from, and writing to array, 4 bytes each time' is: 72.3529 seconds
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Benchmark 4:
Hard Drive benchmark 1
Which includes reading from, and writing to file, 100 bytes each time' is: 27.6835 seconds
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### Results for Benchmark

BenchMark	Recorded Time
First Benchmark	6.88351
Second Benchmark	9.15046

Third Benchmark	72.3529
Fourth Benchmark	27.6835
Fifth Benchmark	19.4908

Geometric mean

$$= (6.88351 + 9.15046 + 72.3529 + 27.6835 + 19.4908)^{1/5}$$

$$= 2.702$$

