Specification of Computer:

o The brand of CPU (Intel or AMD): **AMD**

o The model of CPU (e.g. Intel i7-9700K Coffee Lake): **AMD Ryzen 5 5500U with Radeon Graphics**

o The number of cores on CPU: **6 cores**

o The clock rate of CPU in GHz: **2.10 GHz**

o The amount of memory in GB: **8.00 GB**

o The speed of memory (for example: DDR4 3200): **DDR4 3200**

o The capacity of hard drive: **256 GB**

o The type of hard drive: magnetic or SSD: **SSD**

For SSD, provide

§ Max sequential read speed: 2202.78 Mb/s

§ Max sequential write speed: 1302.26 Mb/s

§ Max random read speed:

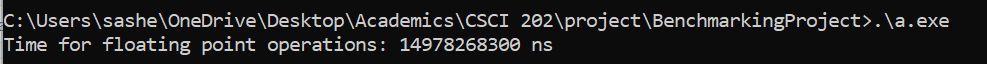
§ Max random write speed

• One screenshot for each of the benchmark showing the output of the benchmark. The screenshot

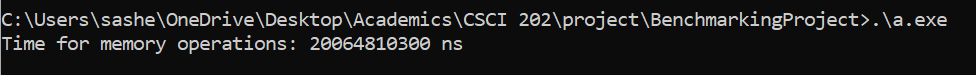
must be accompanied by a caption identifying the benchmark.



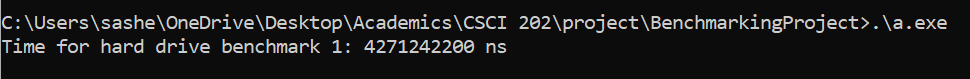
Caption: Output of integer operations benchmark



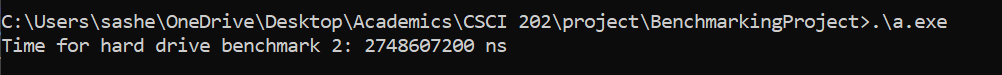
Caption: Output of floating point operations benchmark



Caption: Output of memory operations benchmark



Caption: Output of Hard Drive benchmark 2



Caption: Output of Hard Drive benchmark 2

• A table recording the results of all the benchmarks.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Execution time (ns) | Execution time (n) | Reference time (s) | Ratio |
| Integer Operations | o 1010 additions (of integer constants)  o 5 × 109 multiplication (of integer constants)  o 2 × 109 division (of integer constants) | 14773330300 | 14.773330300 | 100 | 6.7689544584 |
| Floating Point Operations | o Same as integer, use *double precision* floating point numbers instead of integer. | 14978268300 | 14.978268300 | 100 | 6.6763392133 |
| Memory Operations | o Read from 5 × 109 different array elements, 4 bytes each time  o Write to 5 × 109 different array elements, 4 bytes each time | 20064810300 | 20.064810300 | 100 | 4.9838497600 |
| Hard drive benchmark 1 | o Read a whole file of 109 bytes, 100 bytes each time  o Write 109 bytes to a file, 100 bytes each time | 4271242200 | 4.271242200 | 250 | 58.530981923 |
| Hard drive benchmark 2 | o Read a whole file of 109 bytes, 10000 bytes each time  o Write 109 bytes to a file, 10000 bytes each time | 2748607200 | 2.748607200 | 10 | 3.6382062886 |
| Geometric mean |  |  |  |  | 8.633355247 |

• The calculation of a single number using geometric mean to summarize the results of all four

benchmarks.

Summary of results using a single number (geometric mean): 8.633355247