**Benchmark Report**

**System Specifications:**

CPU Brand and Model: Intel(R) Core(TM) i7-8650U CPU @ 1.90GHz 2.11 GHz

Number of CPU Cores: 4

CPU Clock Rate: 1.90GHz 2.11 GHz

RAM: 16.0 GB (15.9 GB usable)

Memory Speed: 2400 MHz

Hard Drive Capacity: 512 GB

Hard Drive Type: SSD

**SSD Specifications:**

Max Sequential Read Speed: 498 MB/s

Max Sequential Write Speed: 409 MB/s

Max Random Read Speed: 357 MB/s (**IOPS 32KQD20)**

Max Random Write Speed: 357 MB/s (**IOPS 32KQD20)**

**Benchmark Results**

|  |  |  |
| --- | --- | --- |
| **S.N.** | **Benchmark** | **Time (seconds)** |
| 1 | 32-bit Integer Operations Benchmark | 1071.11 |
| 2 | 64-bit Floating Point Operations Benchmark | 722.93 |
| 3 | Memory Operations Benchmark | 2362.53 |
| 4 | Hard Drive Benchmark 1 (Small Chunks) | 6.25 |
| 5 | Hard Drive Benchmark 2 (Large Chunks) | 2.30 |
|  | **Total** | **4,165.12** |

**Geometric Mean of Benchmark Results**

**Calculation**:

Product = 1071.11 x 722.93 x 2362.53 x 6.25 x 2.30 = 2.63 x 1010

Geometric mean = = 100 seconds

**Calculation Result:** The geometric mean is approximately ~ 100 seconds.

**Screenshots and Captions**

**Screenshot 1: Output of the 32-bit Integer Operations Benchmark**

A screenshot of a computer

Description automatically generated

Caption: Shows the console output immediately after running the 32-bit integer operations benchmark, with a total execution time displayed.

**Screenshot 2: Output of the 64-bit Floating Point Operations Benchmark**

A screenshot of a computer

Description automatically generated

Caption: Displays the results for the floating point operations, highlighting the computational efficiency and speed.

**Screenshot 3: Memory Operations Benchmark Result**

A screenshot of a computer

Description automatically generated

Caption: Reflects both read and write times, demonstrating memory throughput and efficiency.

**Screenshot 4: Hard Drive Operations Benchmark (Small Chunks)**

A screenshot of a computer

Description automatically generated

Caption: Details the read and write operations performed in smaller chunks, noting total execution times.

**Screenshot 5: Hard Drive Operations Benchmark (Large Chunks)**

A screenshot of a computer

Description automatically generated

Caption: Exhibits faster read and write speeds due to larger block sizes, showcasing the potential for varied operational strategies.