**BenchMark Project**

| **Specifications of my computer** | **Apple Macbook Pro M1** |
| --- | --- |
| The brand of CPU (Intel or AMD) | Apple Silicon |
| The model of CPU | M1 Chip |
| The number of cores on CPU | 8 ( 4 performance / 4 efficiency) |
| The clock rate of CPU in GHz | 3.2 GHz to 3.8 GHz |
| The amount of memory in GB | 8GB RAM |
| The speed of memory | 3733 MHz |
| The capacity of hard drive | 512 GB |
| For ssd , max sequential read speed | 3.4 GB / s |
| max sequential write speed | 2.8 GB/s |
| Max random read speed | 3.4 GB/s |
| Max random write speed | 2400 MB / s |

| **Benchmarks** | **Execution Time (seconds)** |
| --- | --- |
| a)32-bit Integer operation benchmark | 1234.37 , |
| b)64-bit Floating point operation benchmark | 1735.04 |
| c)Memory benchmark | 377.70 |
| d)Hard drive benchmark 1 | 4.64 |
| e)Hard drive benchmark 2 | 1.94 |

Now calculation execution time ration ,

Ratio = reference time/execution time

a = 100/1234.37 = 0.08

b = 100/1735.04 = 0.058

c =100 /377.70= 0.26

d= 250/4.64 = 53.88

e= 10/1.94 = 5.15

N =5

Geometric mean = (a\*b\*c\*d\*e)^1/N

= (0.08 \* 0.058 \* 0.26 \* 53.88 \* 5.15) ^ ⅕

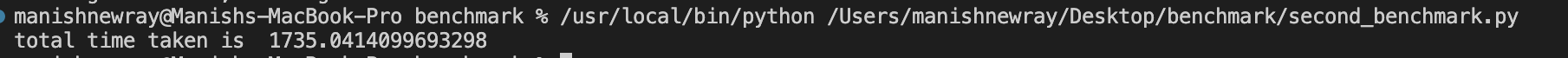
=0.80

**Screenshots of output of each benchmark :**

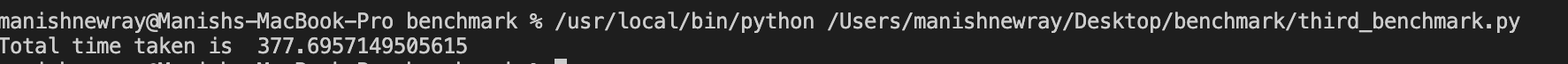
**First Benchmark (32-bit Integer operation benchmark )**



**Second Benchmark (64-bit Floating point operation benchmark)**



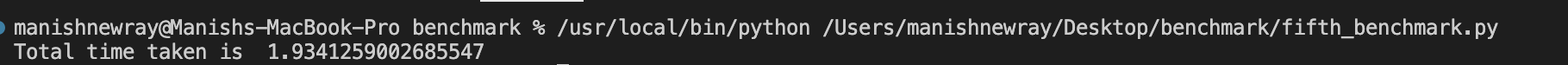
**Third Benchmark (Memory benchmark)**

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**Fourth Benchmark (Hard drive benchmark 1)**

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**Fifth Benchmark (hard Drive benchmark 2 )**

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