**Homework #1 - Arman Behnam - A20522906**

**2**

**System1 Description:**

* Manufacturer: Micro-Star International Co., Ltd.
* Model: US Desktop Aegis R
* System Type: x64-based PC
* Processor: 12th Gen Intel(R) Core(TM) i7-12700F, 2.1 GHz, 12 Cores, 20 Logical Processors
* Memory: 16.0 GB Installed Physical Memory (RAM)
* Operating System: Microsoft Windows 11 Home, Version 10.0.22621 Build 22621
* BIOS Version: American Megatrends International, LLC. 1.D4, Date: 3/31/2022
* BaseBoard: Micro-Star International Co., Ltd. PRO B660M-A CEC

**Compiler1 Description:**

* Compiler: Microsoft C/C++ Compiler (cl.exe)
* Version: Microsoft (R) C/C++ Optimizing Compiler Version 19.34.31937 for x86
* Included with: Visual Studio 2022

**System2 Description:**

* Manufacturer: Micro-Star International Co., Ltd.
* Model: VivoBook\_ASUSLaptop X571LI\_K571LI
* System Type: x64-based PC
* Processor: Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz, 2592 Mhz, 6 Core(s), 12 Logical Processor(s)
* Memory: 16.0 GB Installed Physical Memory (RAM)
* Operating System: Microsoft Windows 11 Home, Version 10.0.22621 Build 22621
* BIOS Version: American Megatrends Inc. X571LI.308, 7/16/2021
* BaseBoard: Micro-Star International Co., Ltd. PRO B660M-A CEC WIFI DDR4 (MS-7D37)
* BaseBoard Manufacturer: ASUSTeK COMPUTER INC.

**Compiler2 Description:**

* Compiler: Microsoft C/C++ Compiler (cl.exe)
* Version: Microsoft (R) C/C++ Optimizing Compiler Version 19.34.31937 for x86
* Included with: Visual Studio 2022

1. **Results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Run # | System1 Integer Matrix Time (ms) | System1 Double Matrix Time (ms) | System2 Integer Matrix Time (ms) | System2 Double Matrix Time (ms) |
| 1 | 2812506 | 2804385 | 6849838 | 7226080 |
| 2 | 2913301 | 2680089 | 7619886 | 6903447 |
| 3 | 2662634 | 2681274 | 7064475 | 6855699 |
| 4 | 2692311 | 3144635 | 6866897 | 7798922 |
| 5 | 2649217 | 2792343 | 6754081 | 6845209 |
| 6 | 2668057 | 3391317 | 6716640 | 6800061 |
| Avg | **2733004.333** | **2915673.833** | **6978636.167** | **7071569.667** |

1. **Results after modification**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Run # | System1 Integer Matrix Time (ms) | System1 Double Matrix Time (ms) | System2 Integer Matrix Time (ms) | | System2 Double Matrix Time (ms) |
| 1 | 2471479 | 2489927 | 6141848 | 6340010 | |
| 2 | 2475372 | 2478470 | 6514678 | 6312456 | |
| 3 | 2470089 | 2470049 | 6294983 | 6285656 | |
| 4 | 2470901 | 2469465 | 6215065 | 6349903 | |
| 5 | 2472490 | 2496118 | 6295761 | 6342116 | |
| 6 | 2458449 | 2508847 | 6292274 | 6483283 | |
| Avg | **2469796.667** | **2485479.333** | **6292434.833** | **6352237.333** | |