

Parallel & Distributed Computing

CSE525

Assignment **#2** - to be submitted to **Dr. Masroor Hussain**

**Comparisons of Processors**

Submitted by,

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Processors’ Comparison

# Select any five processors of different companies and compare the performances and parameters, such as cache memory, pipeline, etc.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sr#** | **Name** | **No. of Cores** | **No. of Threads** | **Normal Clock**  **Frequency (MHz)** | **Overclocked Frequency (MHz)** | **No. of Pipeline Stages** | **Cache Size (MB)** |
| **1** | Intel Core i9 10900K1 (Comet - Lake) | 10 | 20 | 3700 | 4800 | 14 (16 with fetch/retire)6 | 20 |
| **2** | Intel Core i7 10700K2 (Comet - Lake) | 8 | 16 | 3800 | 4700 | 14 (16 with fetch/retire)6 | 16 |
| **3** | Intel Core i3 105G13 (Sunny Cove – Ice Lake) | 2 | 4 | 1100 | 3200 | 14-206 | 4 |
| **4** | Intel Xeon Platinum 8380HL4 (Cooper - Lake) | 28 | 56 | 2900 | 4300 | 14 (16 with fetch/retire)6 | 39 |
| **5** | AMD Ryzen 7 Pro 37005 (Zen-2 microarchitecture) | 8 | 16 | 3600 | 4400 | N/A | 32 |

[1] <https://ark.intel.com/content/www/us/en/ark/products/199332/intel-core-i9-10900k-processor-20m-cache-up-to-5-30-ghz.html>

[2] <https://ark.intel.com/content/www/us/en/ark/products/199335/intel-core-i7-10700k-processor-16m-cache-up-to-5-00-ghz.html>

[3] <https://ark.intel.com/content/www/us/en/ark/products/196588/intel-core-i3-1005g1-processor-4m-cache-up-to-3-40-ghz.html>

[4] <https://ark.intel.com/content/www/us/en/ark/products/205684/intel-xeon-platinum-8380hl-processor-38-5m-cache-2-90-ghz.html>

[5] <https://www.amd.com/en/products/cpu/amd-ryzen-7-pro-3700>

[6] <https://en.wikipedia.org/wiki/List_of_Intel_CPU_microarchitectures>

Old List:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sr#** | **Name** | **Number of Cores** | **Number of Threads** | **Normal Clock**  **Frequency (MHz)** | **Overclocked Frequency (MHz)** | **Number of Pipeline Stages** | **Cache Size** |
| 1 | [INTEL CORE I9 10900K](https://www.pcgamer.com/intel-core-i9-10900k-review-performance-benchmarks/) | 10 | 20 | 3700 | 5300 (single core)  4900 (all cores) | 14 (16 with fetch/retire) | L3: 20MB |
| 2 | [Intel Core i7 9700K](https://www.pcgamer.com/intel-core-i7-9700k-review/) | 8 | 8 | 3600 | 4900 | 14 (16 with fetch/retire) | L3: 12MB |
| 3 | [AMD Ryzen 9 3900X](https://www.amd.com/en/products/cpu/amd-ryzen-9-3900x) | 12 | 24 | 3600 | 4900 | No info. avail. | L3: 64MB (total) |
| 4 | [AMD Ryzen 7 3700X](https://www.amd.com/en/products/cpu/amd-ryzen-7-3700x) | 8 | 16 | 3600 | 4400 | No info. avail. | L3:32MB (total) |
| 5 | [Intel Core i5 9400F](https://ark.intel.com/content/www/us/en/ark/products/190883/intel-core-i5-9400f-processor-9m-cache-up-to-4-10-ghz.html) | 6 | 6 | 2900 | 4100 |  | L3: 9MB |