

Homework 1 - Computer Architecture

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My device: MacBook Pro 13" by Apple (M1 2020)

MacBook Pro M1 2020 is a powerful yet compact machine produced by the Apple in 2020. It is one of the new-generation machines by Apple not only because of its new microprocessor M1, but also because of the new battery, which made it possible to make this model of MacBook to pretend for the longest lasting battery life ever to exist in the history of computers.

As mentioned previously, it contains the powerful microprocessor, which is the heart of the MacBook Pro. It is based on the ARM architecture and designed by Apple itself (although it is manufactured by the giant of the silicon microchips industry - Taiwan Semiconductor Manufacturing Co., also known as TSMC). It is a 3.2 GHz multi-core processor with 8 CPU (central processing unit) cores and 8 GPU (graphical processing unit) cores, delivering excellent performance for demanding tasks such as video editing and even gaming. Although this model of MacBook does not have the graphical card, 8 GPU cores of M1 core allow users to fulfill majority of tasks without the need for the graphical card. The integrated GPU in the M1 chip is responsible for handling all graphics-related tasks, from rendering high-quality video to supporting the Retina display.

Following the industry trend to equip modern laptops with SSDs, Apple decided to equip MacBook Pros of my model with a solid-state drive (SSD) with a capacity of 256 GB, 512 GB, 1 TB, or 2 TB. My device has a capacity of 512 GB, which is in my opinion good enough to perform daily tasks. Moreover, SSD drives provides fast and reliable storage for large files, including photos, videos, and applications. My MacBook Pro 13" M1 2020 has 8 GB of RAM (random access memory) which is split between CPU and GPU for the usage of the processor.

My MacBook as well as many others is equipped with the latest version of MacOS, a software developed by the Apple itself. Current version is called MacOS Ventura.

To conclude, MacBook 13" M1 2020 by Apple is quite a powerful machine, which containing all of the components listed above provides a smooth user experience. I am very satisfied and happy to have this device at my disposal, as all the tasks I have to perform using my computer are turned into a very pleasant experience thanks to this device, and its inner details.