

Practical No. 1

Aim: Explore Configuration details of Computer System Hardware and Operating System of your personal computer/Laptop with respect to -

- a) Processor model
- b) RAM size
- c) Processor frequency
- d) Cache memory size
- e) SSD and HDD capacities
- f) Operating system (32-bit or 64-bit)
- g) Hyper-threading support: Indicate if the processor supports hyper-threading and provide a brief explanation.

Requirement (Hardware/Software) :

A personal computer or laptop with Windows/Linux OS to check hardware configuration, and necessary system tools (Task Manager, Command Prompt, or Settings) to retrieve processor, memory, storage, and OS details.

Theory:

- a) **Processor Model** – Identifies the specific type and generation of the CPU, which determines processing capability and features.
- b) **RAM Size** – The amount of Random Access Memory available, affecting how many tasks/programs can run simultaneously.
- c) **Processor Frequency** – The speed at which the CPU executes instructions, measured in GHz; higher values generally mean faster performance.
- d) **Cache Memory Size** – Small, high-speed memory inside the CPU used to store frequently accessed data for faster processing.
- e) **SSD and HDD Capacities** – Total storage space; SSDs are faster and more efficient, while HDDs offer higher capacity at lower cost.
- f) **Operating System (32-bit or 64-bit)** – Indicates OS architecture; 64-bit supports more RAM and can handle larger data sizes than 32-bit.
- g) **Hyper-threading Support** – A CPU technology that allows each physical core to handle two tasks (threads) at once, improving multitasking

Configuration of My Systems

1. Mobile (Realme 12X)

- a) Processor Model – MediaTek Dimensity 6100+
- b) RAM Size – 6 GB
- c) Processor Frequency – Up to 2.6 GHz
- d) Cache Memory Size – L3 Cache: 2 MB
- e) SSD and HDD Capacities – 128 GB internal storage
- f) Operating System (32-bit or 64-bit) – Android 14, 64-bit OS
- g) Hyper-threading Support – Not applicable (uses ARM big.LITTLE architecture instead of hyper-threading)

2. Laptop (Dell Vostro 3510)

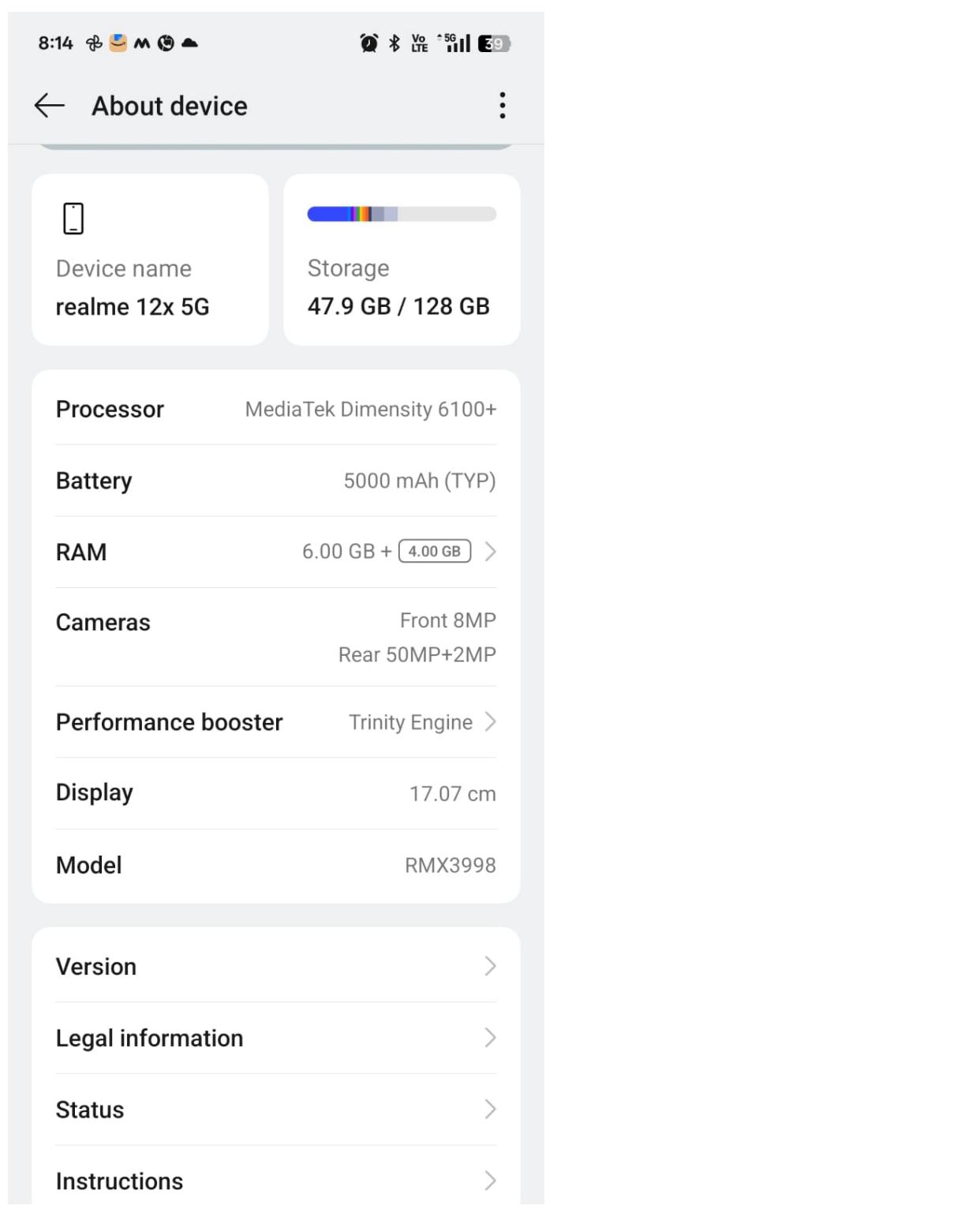
- a) Processor Model – 11th Gen Intel(R) Core(TM) i5-1135G7
- b) RAM Size – 8.00 GB
- c) Processor Frequency – 2.40 GHz base
- d) Cache Memory Size – L3 cache: 8MB, L2 cache: 2 MB
- e) SSD and HDD Capacities – 512 GB SSD
- f) Operating System (32-bit or 64-bit) – 64-bit operating system, x64-based processor
- g) Hyper-threading Support – Supported; allows each core to handle two threads for better multitasking

3. Desktop:

- a) Processor Model – AMD Ryzen 7 5700G with Radeon Graphics
- b) RAM Size – 16 GB DDR4
- c) Processor Frequency – 2.9 GHz base, up to 4.8 GHz turbo
- d) Cache Memory Size – L1: 512 KB, L2: 2 MB, L3: 16 MB
- e) SSD and HDD Capacities – 1 TB SSD + 2 TB HDD
- f) Operating System (32-bit or 64-bit) – Windows 11 Education, 64-bit OS
- g) Hyper-threading Support – Supported; enables simultaneous execution of two threads per core

Output(screenshot):

1)Mobile



2) Laptop:

The screenshot shows the Windows System About page. At the top, there's a search bar with the placeholder "Find a setting". Below it, the title "System > About" is displayed. The main content area contains four cards: Storage (477 GB, 341 GB used), Graphics Card (128 MB, Intel(R) Iris(R) Xe Graphics), Installed RAM (8.00 GB), and Processor (11th Gen Intel(R) Core(TM) i5-1135G7 @ 2.40GHz, 2.42 GHz). Below these cards, the PC name is listed as "dellvastro3510" (Vostro 15 3510) with a "Rename this PC" button. A "Device specifications" section follows, containing detailed hardware information. Under "Related links", there are links to Domain or workgroup, System protection, and Advanced system settings. The "Windows specifications" section shows the Edition as Windows 11 Home Single Language.

Find a setting

System > About

Storage
477 GB
341 GB of 477 GB used

Graphics Card
128 MB
Intel(R) Iris(R) Xe Graphics

Installed RAM
8.00 GB

Processor
11th Gen Intel(R)
Core(TM) i5-1135G7 @
2.40GHz
2.42 GHz

dellvastro3510
Vostro 15 3510 Rename this PC

Device specifications Copy ^

Device name	dellvastro3510
Processor	11th Gen Intel(R) Core(TM) i5-1135G7 @ 2.40GHz (2.42 GHz)
Installed RAM	8.00 GB (7.74 GB usable)
Device ID	AC940266-5D0D-4EF3-9943-A677305FD271
Product ID	00356-24661-64388-AAOEM
System type	64-bit operating system, x64-based processor
Pen and touch	No pen or touch input is available for this display

Related links [Domain or workgroup](#) [System protection](#) [Advanced system settings](#)

Windows specifications Copy ^

Edition	Windows 11 Home Single Language
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3) Desktop:

System > About

Storage 477 GB 75 GB of 477 GB used	Graphics Card 496 MB AMD Radeon(TM) Graphics	Installed RAM 16.0 GB Speed: 3200 MHz	Processor AMD Ryzen 7 5700G with Radeon Graphics 3.80 GHz
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CSE-IOT-L3-15
Veriton M200-P500 Rename this PC

i Device specifications Copy ^

Device name	CSE-IOT-L3-15
Processor	AMD Ryzen 7 5700G with Radeon Graphics
Installed RAM	16.0 GB (15.4 GB usable)
Device ID	B42681B7-5F03-4442-BFF6-C3BFDC2E0DF
Product ID	00328-20020-00000-AA23
System type	64-bit operating system, x64-based processor
Pen and touch	No pen or touch input is available for this display

Related links Domain or workgroup System protection Advanced system settings

■ Windows specifications Copy ^

Edition	Windows 11 Education
Version	24H2
Installed on	3/26/2025
OS build	26100.4351
Experience	Windows Feature Experience Pack 1000.26100.107.0
Microsoft Services Agreement	
Microsoft Software License Terms	

Conclusion:

Understanding system configuration helps compare device performance and choose the right one for tasks. Specifications like CPU, RAM, storage, and OS play a key role in efficiency.