

Template Week 3 – Hardware

Student number:

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Assignment 3.1: Examine your phone

What processor is in your phone?

Apple A15 Bionic chip

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used?

ARM, so it uses RISC

How much RAM is in it?

6GB

How much storage does your phone have?

128GB

What operating system is running on your phone?

iOS

Approximately how many applications do you have installed?

35

Which application do you use the most?

Spotify

Can your phone be charged with what type of plug?

lightning

Which I/O ports can you visually see on your phone?

Lightning port

Simkaart port

Speakers

zijknoppen

Assignment 3.2: Examine your laptop

What processor is in your laptop?

Intel Core i7-13620H

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used?

X32– X86

RISC

How much RAM is in it?

How much storage does your laptop have?

1TB

Which operating system is running on your laptop?

Windows

Approximately how many applications do you have installed?

20

Which application do you use the most?

intellij

Can your laptop be charged with what type of plug?

Barrel Connector

Which I/O ports can you visually see on your laptop?

HDMI

Usb ports

Oplaad ports

Speakers

Assignment 3.3: Power to the laptop

What is the input voltage?

100-240 Volt ligt aan het stopcontact

What is the output voltage?

20v

How many watts can your power adapter deliver?

65Watt

Is the input voltage AC or DC?

AC

Is the output voltage AC or DC?

DC

AC/DC what is that?

Alternate current

Direct current

AC kan beide kanten op terwijl DC alleen 1 kant op kan

If you reverse the polarity of the output voltage, is that bad for your laptop?

ja

You forgot your power adapter, your laptop normally needs 15 watts. You will be loaned a power adapter that can deliver 50 watts. Voltage, polarity, etc. are all the same compared to the original power adapter. You can connect the borrowed power adapter to your laptop. What will happen? Also explain why you think that.

Zolang alle Voltage en polarisatie hetzelfde zijn kan de lader veilig worden gebruikt. De lader zou niet meer stroom geven dan de laptop nodig heeft.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

Component	Selection	Base	Promo	Shipping	Tax	Availability	Price	Where
CPU	AMD Ryzen 7 7800X3D 4.2 GHz 8-Core Processor	€379.00	—	FREE	—	In stock	€379.00	AZERTY Buy
CPU Cooler	Corsair NAUTILUS 360 RS ARGB 74.37 CFM Liquid CPU Cooler	€108.99	—	✓Prime	—	In stock	€108.99	amazon.nl Buy
Motherboard	Asus ROG STRIX B650-E GAMING WIFI ATX AM5 Motherboard	€279.00	—	✓Prime	—	In stock	€279.00	amazon.nl Buy
Memory	Crucial Pro Overclocking 32 GB (2 x 16 GB) DDR5-6000 CL36 Memory	€419.90	—	FREE	—	—	€419.90	MEGEKKO Buy
	+ Add Additional Memory							
Storage	+ Choose Storage							
Video Card	PNY XLR8 Gaming VERTO EPIC-X RGB OC GeForce RTX 4070 Ti SUPER 16 GB Video Card	—	—	—	—	—	No Prices Available	Buy
	+ Add Another Video Card							
Case	+ Choose A Case							
Power Supply	Corsair RM850x (2024) 850 W Fully Modular ATX Power Supply	€154.35	—	✓Prime	—	In stock	€154.35	amazon.nl Buy
Operating								

Processor (CPU): AMD Ryzen 7 7800X3D

Grafische kaart (GPU): NVIDIA GeForce RTX 4070 Ti

- **Moederbord:** ASUS ROG Strix B650-E –
- **Geheugen (RAM):** 32 GB DDR5-6000
- **Opslag:**
 - 1 TB NVMe SSD (Samsung 990 Pro)
 - 2 TB HDD
- **Koeling:** Noctua NH-D15 –
- **Voeding (PSU):** Corsair RM850x (850W, modulair)

Ik heb deze onderdelen gekozen omdat ze een balans bieden tussen gaming, game-ontwikkeling en toekomstbestendigheid. De Ryzen 7 7800X3D levert uitstekende prestaties voor games en ontwikkelomgevingen, terwijl de RTX 4070 Ti zorgt voor vloeiende beelden en ondersteuning van moderne grafische technieken. Met 32 GB DDR5-geheugen kan ik probleemloos multitasken tussen coderen, sprite-animatie en gamen.

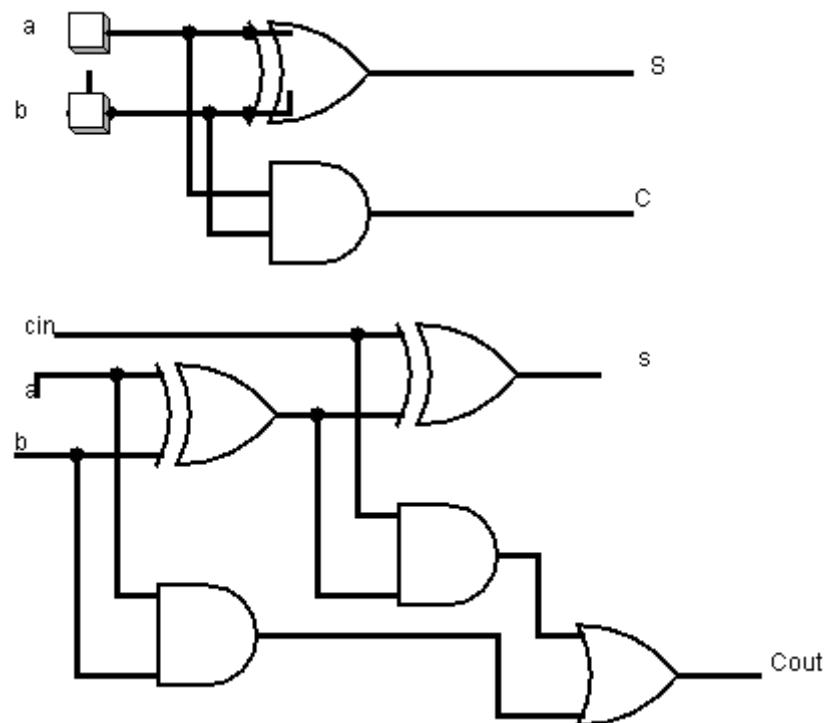
De combinatie van een snelle NVMe SSD en een grote HDD geeft mij zowel snelheid als opslagcapaciteit. De gekozen koeling en behuizing zorgen voor een stille en goed gekoelde werkplek. Tot slot biedt de voeding voldoende vermogen en stabiliteit voor toekomstige upgrades. Dit systeem weerspiegelt mijn droom van een krachtige, veelzijdige en duurzame PC.

(Chatgpt, Schrijf een motivatie voor deze gekozen producten)

Assignment 3.5: Adders

Complete the **half adder**, **full adder** and **4-bit adder** assignment as described in the PowerPoint slides of week 3 in Logisim. Save the chip design and also export three PNG pictures of the separate finished designs. See the PowerPoint slides of week 3.

Paste the three exported PNG pictures in here.



Ready? Save this file and export it as a pdf file with the name: [week3.pdf](#)

