

# Template Week 3 – Hardware

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## Assignment 3.1: Examine your phone

What processor is in your phone?

Octa-core (4x2.4 GHz Cortex-A78 & 4x2.0 GHz Cortex-A55)

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

**ARMv8.2-A**

How much RAM is in it?

4GB

How much storage does your phone have?

128GB

What operating system is running on your phone?

Android 14

Approximately how many applications do you have installed?

60

Which application do you use the most?

Whatsapp

Can your phone be charged with what type of plug?

USB C 2.0

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

Oplaad port, SIM kaart port, Speaker ports

## Assignment 3.2: Examine your laptop

What processor is in your laptop?

Ryzen 7 5825U

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

X86-64

How much RAM is in it?

32Gb ddr4

How much storage does your laptop have?

1TB

Which operating system is running on your laptop?

Windows 11 education

Approximately how many applications do you have installed?

85

Which application do you use the most?

Discord

Can your laptop be charged with what type of plug?

Acer Aspire Go AG15-42P-R2XF adapter

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

DC-in jack, RJ45 LAN Port, HDMI, USB 3.2, Type-C Port with DC-in, headset jack, USB 3.2, Kensington lock

### **Assignment 3.3: Power to the laptop**

What is the input voltage?

100-240V

What is the output voltage?

20V

How many watts can your power adapter deliver?

65W

Is the input voltage AC or DC?

AC

Is the output voltage AC or DC?

DC

AC/DC what is that?

Zowel AC als DC beschrijven de soorten stroom die in een circuit vloeit










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

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.

Niks, de laptop neemt alleen wat hij nodig heeft dus 15watts, zolang de voltage die hij krijgt hetzelfde blijft zal er niks gebeuren.

### Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

Component	Selection	Base	Promo	Shipping	Tax	Availability	Price	Where	
CPU	 AMD Ryzen 7 9800X3D 4.7 GHz 8-Core Processor	€465.00	—	Prime	—	In stock	€465.00	amazon.nl	Buy X
CPU Cooler	 Corsair NAUTILUS 360 RS ARGB 74.37 CFM Liquid CPU Cooler	€108.99	—	Prime	—	In stock	€108.99	amazon.nl	Buy X
Motherboard	 MSI MAG B850 TOMAHAWK MAX WIFI ATX AM5 Motherboard	€253.99	—	Prime	—	In stock	€253.99	amazon.nl	Buy X
Memory	 Corsair Vengeance RGB 64 GB (2 x 32 GB) DDR5-6000 CL30 Memory	€899.00	—	FREE	—	In stock	€899.00	ALTERNATE	Buy X
	<a href="#">+ Add Additional Memory</a>								
Storage	 Samsung 990 Pro 2 TB M.2-2280 PCIe 4.0 X4 NVME Solid State Drive	€229.00	—	Prime	—	In stock	€229.00	amazon.nl	Buy X
	<a href="#">+ Add Additional Storage</a>								
Video Card	 NVIDIA Founders Edition GeForce RTX 5090 32 GB Video Card	€3289.99	—	—	—	In stock	€3289.99	amazon.nl	Buy X
	<a href="#">+ Add Another Video Card</a>								
Case	 Corsair 3500X ARGB ATX Mid Tower Case	€129.00	—	FREE	—	In stock	€129.00	ALTERNATE	Buy X
Power Supply	 Corsair SF1000 (2024) 1000 W 80+ Platinum Certified Fully Modular SFX Power Supply	€224.00	—	Prime	—	In stock	€224.00	amazon.nl	Buy X
Operating System	 Microsoft Windows 11 Home OEM - DVD 64-bit	€126.00	—	FREE	—		€126.00	PARADIGM	Buy X

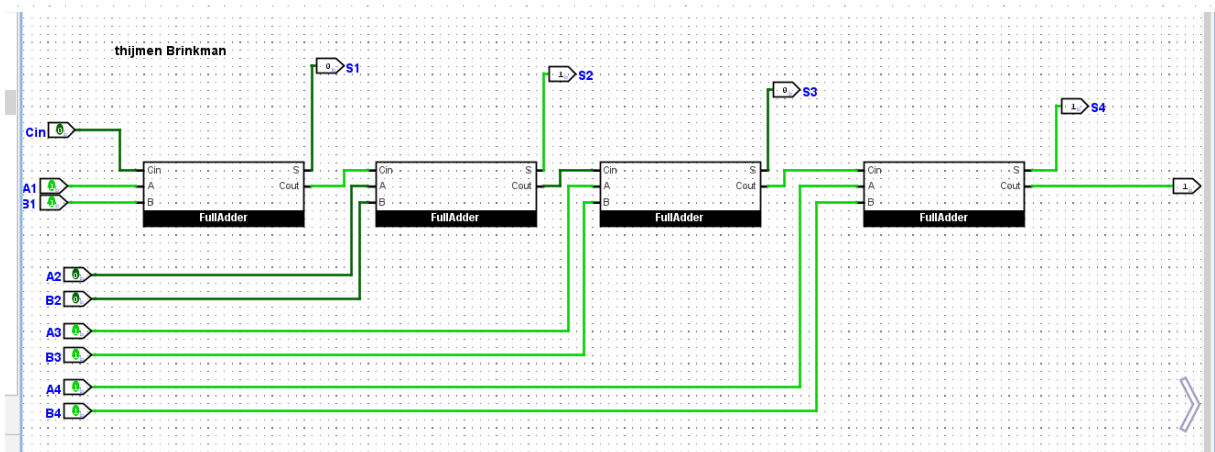
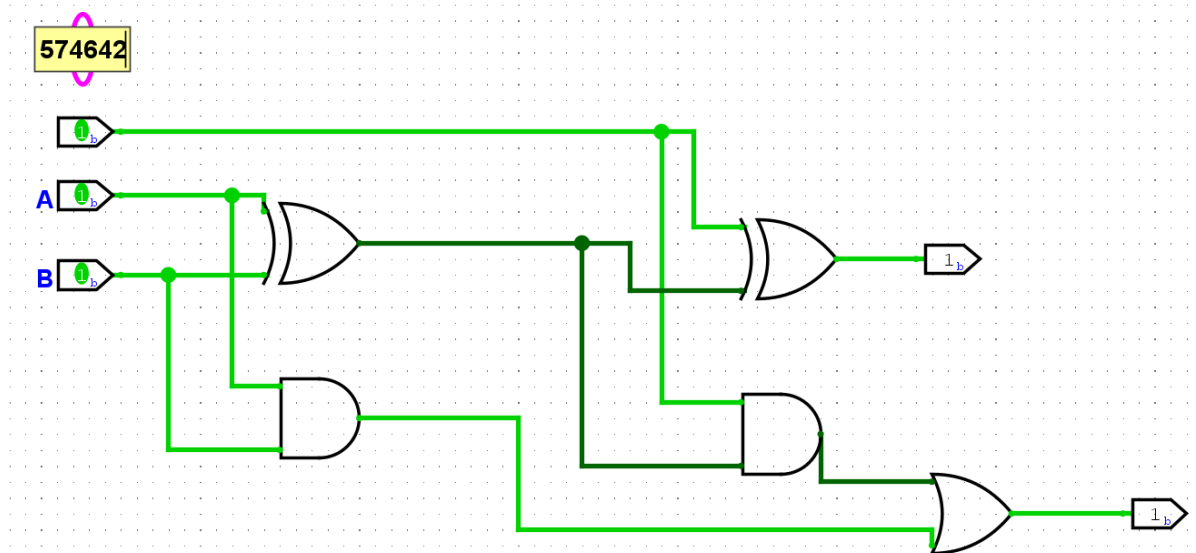
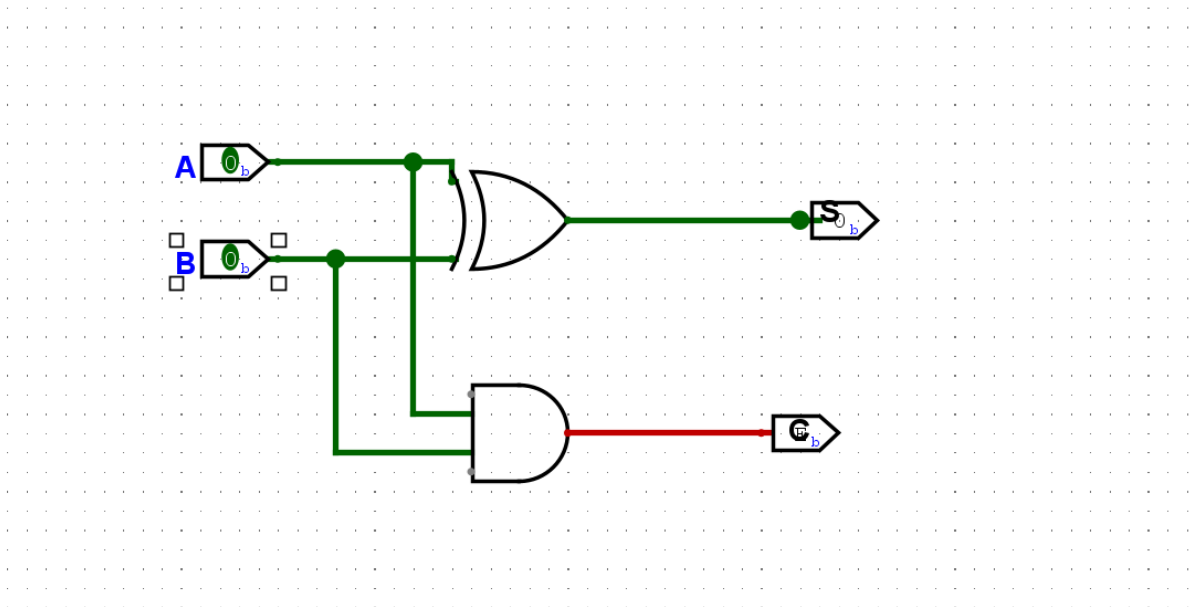
Dit is allemaal top van de markt op dit moment, er is geen betere cpu voor gaming dan de 9800X3D de cooler maakt niet heel veel uit maar een liquid cooler is perfect, moederbord maakt ook niet heel veel uit maar de B850 is top van de markt, 64GB DDR5 is perfect, SSD is top van de markt 2TB is

misschien nog uitbreidbaar, AMD heeft niks dat op het niveau van de 5090 kan concurreren dus vandaar de 5090, de case maakt ook niet veel uit zolang het er maar in past, omdat er een 5090 in zit heb je sowieso 1000W powersupply nodig.

### **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](#)

