B Template Week 3 – Hardware

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Assignment 3.1: Examine your phone

What processor is in your phone?

Samsung exynos 1380.

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

Gebruikt de ARM Cortex-A78 en de Cortex-A55 cores

How much RAM is in it?

6gb ram

How much storage does your phone have?

128 GB

What operating system is running on your phone?

Android 15

Approximately how many applications do you have installed?

100

Which application do you use the most?

Youtube

Can your phone be charged with what type of plug?

USB type c

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

Alleen een USB c poort.

Assignment 3.2: Examine your laptop

What processor is in your laptop?

AMD ryzen7.

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

x86 Architecture.

How much RAM is in it?

16 GB ram

How much storage does your laptop have?

1TB

Which operating system is running on your laptop?

Windows education

Approximately how many applications do you have installed?

76 apps

Which application do you use the most?

Firefox.

Can your laptop be charged with what type of plug?

Gebruikt een 180 W AC adapter

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

1 x HDMI

3 x USB type A

1 x USB type C

1 x RJ45

1 x 3,5 audio jack

Assignment 3.3: Power to the laptop

What is the input voltage?
100-240 volt AC

What is the output voltage?
20 volt DC

How many watts can your power adapter deliver?
180 watt

Is the input voltage AC or DC?
AC

Is the output voltage AC or DC?
DC

AC/DC what is that?
AC betekend: wisselstroom deze stroom verandert 50 tot 60 keer per seconde.
DC betekend: gelijkstroom deze stroom gaat maar 1 kant op.

If you reverse the polarity of the output voltage, is that bad for your laptop?
Ja best wel want je draait de + en – om. Dit kan de laptop beschadigen en het moederbord of de zekeringen laten doorbranden.

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.

Dit is geen problem want, de laptop neemt alleen het vermogen wat hij nodig heeft.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

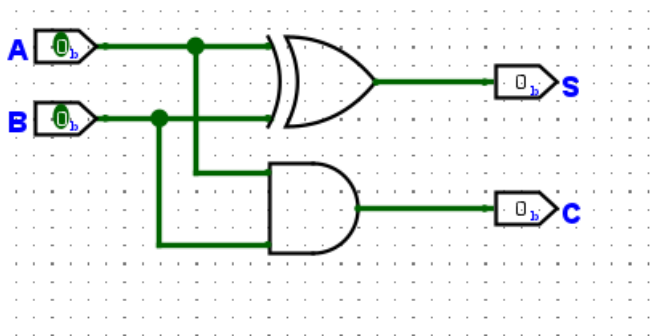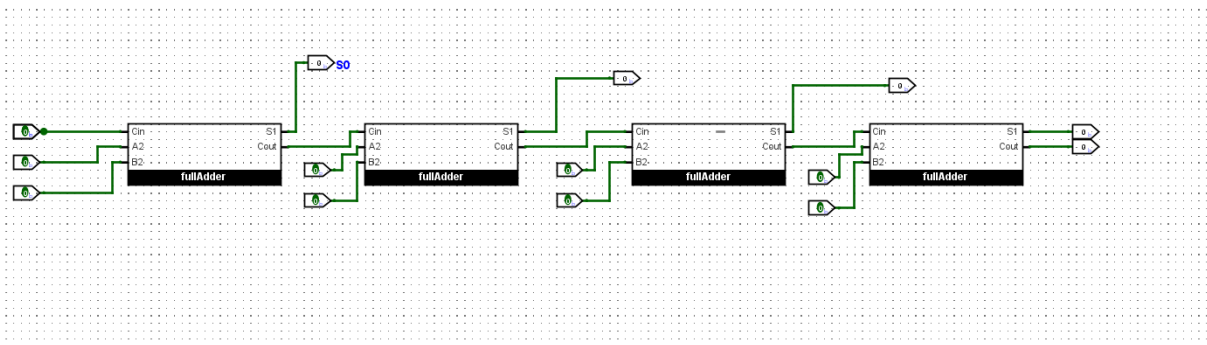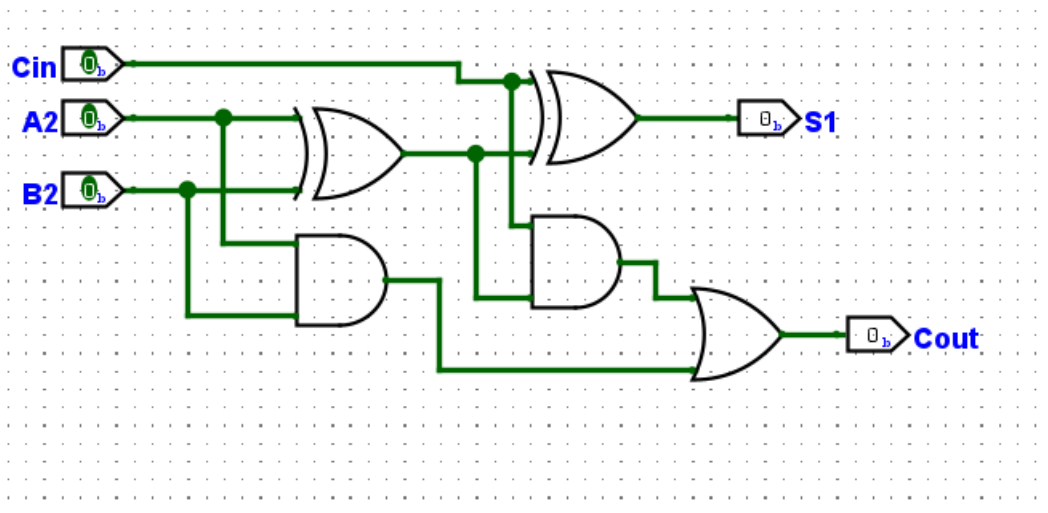| Component	Selection		Base	Promo	Shipping	Tax	Availability		Price	Where		
CPU		Intel Core i9-14900KF 3.2 GHz 24-Core Processor	€426.85	—	✓Prime	—	In stock	⚙	€426.85	amazon.nl	Buy	✕
CPU Cooler		Corsair iCUE H150i ELITE LCD XT 65.57 CFM Liquid CPU Cooler	—	—	—	—		⚙	No Prices Available	—	Buy	✕
Motherboard		Asus ROG STRIX Z790-E GAMING WIFI ATX LGA1700 Motherboard	€726.00	—	—		In stock	⚙	€726.00	amazon.nl	Buy	✕
Memory		Corsair Vengeance RGB 32 GB (2 x 16 GB) DDR5-6000 CL36 Memory	€469.00	—	FREE		In stock	⚙	€469.00	bol.	Buy	✕
	+ Add Additional Memory											
Storage		Samsung 990 Pro 2 TB M.2-2280 PCIe 4.0 X4 NVME Solid State Drive	€228.90	—	✓Prime	—	In stock	⚙	€228.90	amazon.nl	Buy	✕
	+ Add Additional Storage											
Video Card		NVIDIA Founders Edition GeForce RTX 4090 24 GB Video Card	—	—	—	—	—	⚙	No Prices Available	—	Buy	✕
	+ Add Another Video Card											
Case		Corsair 3500X ARGB ATX Mid Tower Case	€129.00	—	FREE		In stock	⚙	€129.00	ALTERNATE	Buy	✕
Power Supply		MSI MPG A1000GS PCIE5 1000 W 80+ Gold Certified Fully Modular ATX Power Supply	€209.00	—	FREE	—		⚙	€209.00	MEGEKKO	Buy	✕
Operating System		Microsoft Windows 11 Home Retail - USB 64-bit	€132.95	—	FREE	—		⚙	€132.95	MEGEKKO	Buy	✕
Monitor		Asus ROG Swift PG32UQX 32.0" 3840 x 2160 144 Hz Monitor	—	—	—	—	—	⚙	No Prices Available	—	Buy	✕
	+ Add Another Monitor											

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**