Template Week 3 – Hardware

Student number: 529847

Assignment 3.1: Examine your phone

What processor is in your phone?

A14 Bionic chip

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

ARMv8-A

How much RAM is in it?

4GB

How much storage does your phone have?

64GB

What operating system is running on your phone?

iOS

Approximately how many applications do you have installed?

41

Which application do you use the most?

Tiktok

Can your phone be charged with what type of plug?

Apple Lightning

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

The charging port

Assignment 3.2: Examine your laptop

What processor is in your laptop?

Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz, 2592 Mhz, 6 Core(s), 12 Logical Processor(s)

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

How much storage does your laptop have?

454GB

Which operating system is running on your laptop?

Windows

Approximately how many applications do you have installed?

132

Which application do you use the most?

Discord

Can your laptop be charged with what type of plug?

standard DC-in barrel

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

1 hdmi port

3 usb-A ports

1 ethernet port

1 headphone port

1 microphone port

Assignment 3.3: Power to the laptop

What is the input voltage?

100V-240V

What is the output voltage?

19.5V

How many watts can your power adapter deliver?

120W

Is the input voltage AC or DC?

DC

Is the output voltage AC or DC?

DC

AC/DC what is that?

AC gaat de stroom heen en weer en met DC gaat het maar 1 kant op

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.

Ik denk dat er niet veel ergs kan gebeuren want ook al kan je laptop 50 watts krijgen hij heeft maar 15 nodig en dat is dus ook wat hij gebruikt

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

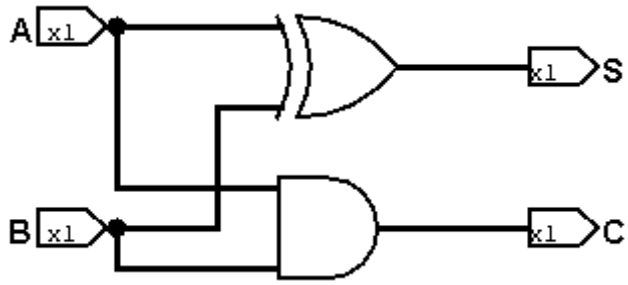
CPU		AMD Ryzen 7 9800X3D 4.7 GHz 8-Core Processor	€469.00	—	FREE	—	In stock	€469.00	AZERTY Buy
CPU Cooler		ARCTIC Liquid Freezer III Pro 360 77 CFM Liquid CPU Cooler	€84.99	—	Prime	—	In stock	€84.99	amazon.nl Buy
Motherboard		Asus B650E MAX GAMING WIFI W ATX AM5 Motherboard	€149.90	—	FREE	—		€149.90	MEGEKKO Buy
Memory		Corsair Vengeance RGB 64 GB (2 x 32 GB) DDR5-6000 CL30 Memory	€899.00	—	FREE	—	In stock	€899.00	ALTERNATE Buy
Memory		Corsair Vengeance RGB 64 GB (2 x 32 GB) DDR5-6000 CL30 Memory	€899.00	—	FREE	—	In stock	€899.00	ALTERNATE Buy
	+ Add Additional Memory								
Storage		Seagate IronWolf Pro 30 TB 3.5" 7200 RPM Internal Hard Drive	€1459.89	—	—	—	In stock	€1459.89	amazon.nl Buy
	+ Add Additional Storage								
Video Card		Asus ROG Astral OC GeForce RTX 5090 32 GB Video Card	€4199.00	—	FREE	—	Out of stock	€4199.00	ALTERNATE Buy
	+ Add Another Video Card								
Case		Corsair 3500X ARGB ATX Mid Tower Case	€128.97	—	Prime	—	In stock	€128.97	amazon.nl Buy
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
Operating System		Microsoft Windows 11 Pro OEM - DVD 64-bit	€157.76	—	FREE	—	In stock	€157.76	amazon.nl Buy
Monitor		Asus ROG Swift OLED PG32UCDM 31.5" 3840 x 2160 240 Hz Monitor	€2124.00	—	—	—	In stock	€2124.00	amazon.nl Buy

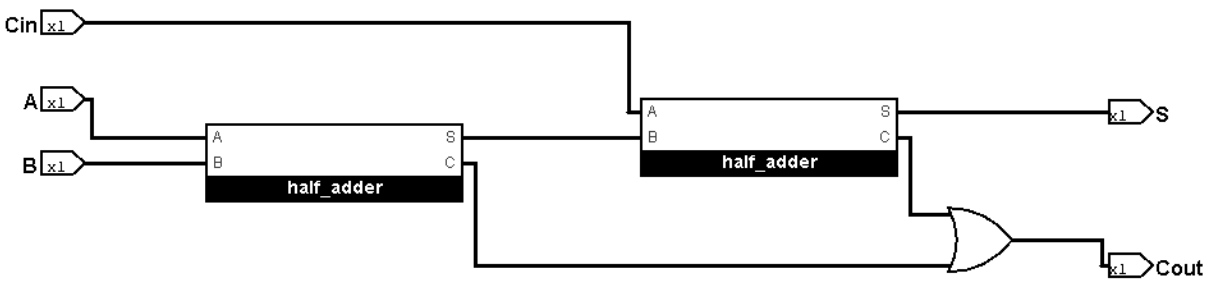
I went for the best parts I could find online so my pc would be able to stay good for a while longer and be able to run anything I want

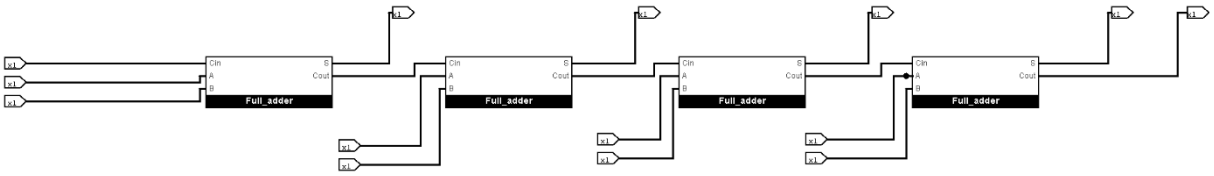
Assignment 3.5: Adders

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**