Template Week 3 – Hardware

Student number: 589055

Assignment 3.1: Examine your phone

What processor is in your phone?

Snapdragon 8 Gen 2 Octacore

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

Snapdragon

How much RAM is in it?

8GB

How much storage does your phone have?

256GB

What operating system is running on your phone?

Andriod

Approximately how many applications do you have installed?

261

Which application do you use the most?

TikTok

Can your phone be charged with what type of plug?

USB-C

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

USB-C Port

Assignment 3.2: Examine your laptop

What processor is in your laptop?

13th Gen Intel® Core™ i78-13620H

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

Intel

How much RAM is in it?

16GB

How much storage does your laptop have?

954GB

Which operating system is running on your laptop?

Windows 11 Education

Approximately how many applications do you have installed?

Approximately 116 Apps

Which application do you use the most?

Firefox

Can your laptop be charged with what type of plug?

7.4mm proprietary

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

3x USB-A port, 1x headphone jacket, HDMI-port, charging port, Ethernet port, 1x USB-C port

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?

200W

Is the input voltage AC or DC?

AC

Is the output voltage AC or DC?

DC

AC/DC what is that?

THUNDER AH-AH, AH-AH-AH

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.

Assignment 3.4: Build your dream PC
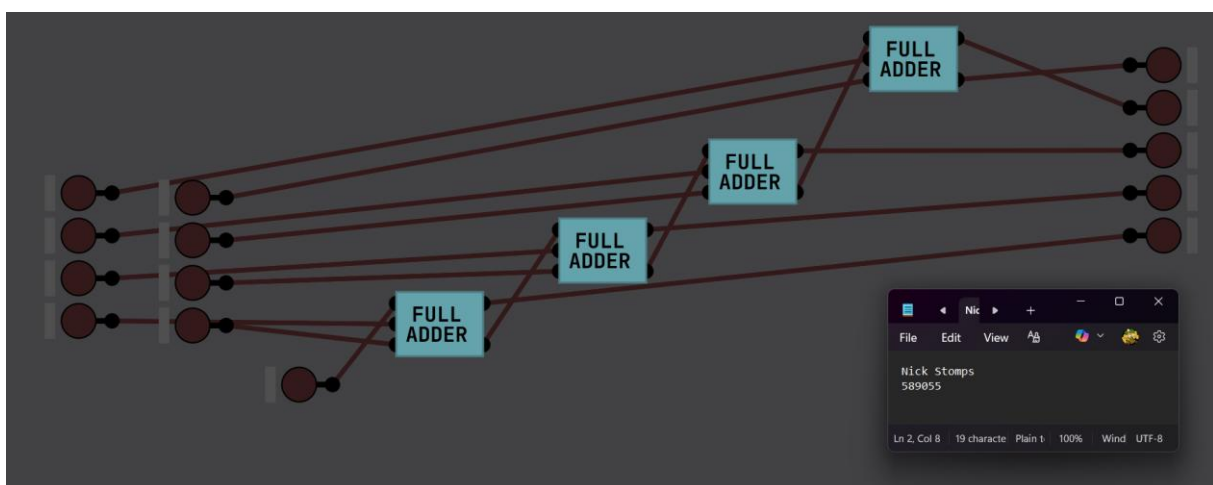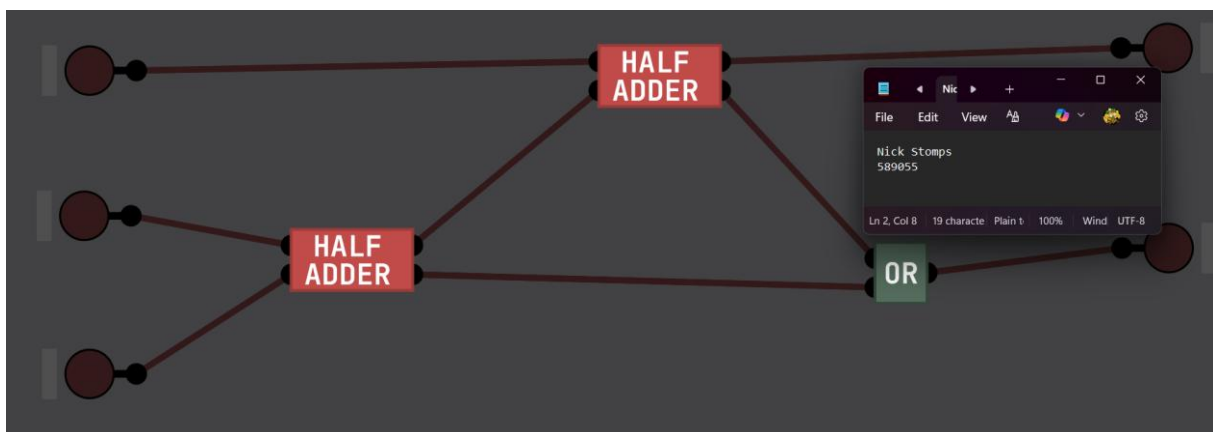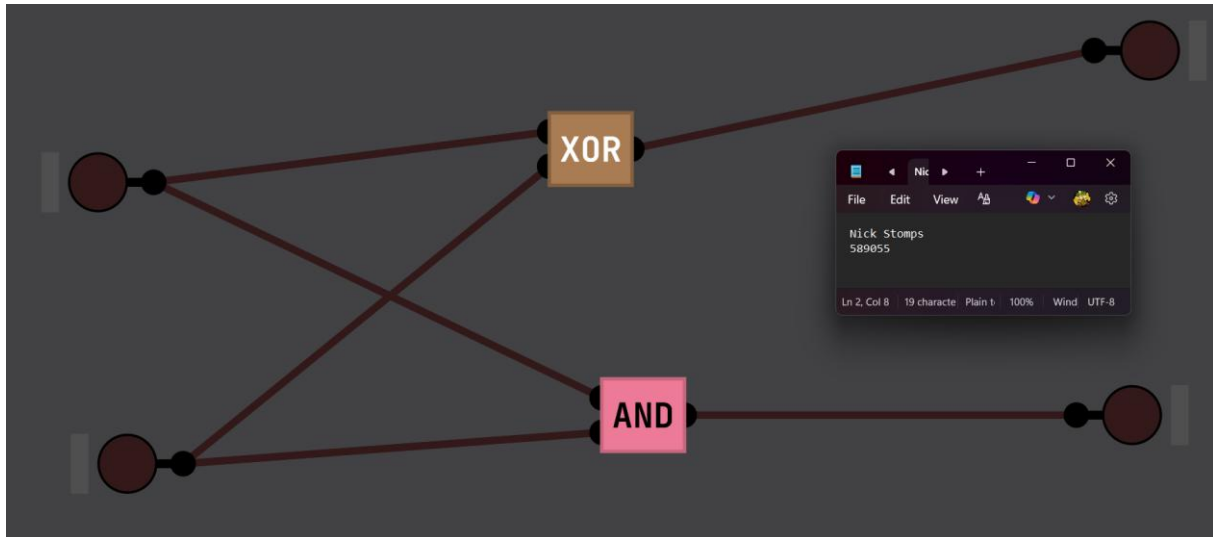
Screenshots PC configuration + motivation:

Component	Selection	Base	Promo	Shipping	Tax	Availability	Price	Where	
CPU	AMD Ryzen 7 9800X3D 4.7 GHz 8-Core Processor	€439.00	—	FREE	—	In stock	€439.00	ALTERNATE	Buy ×
CPU Cooler	Cooler Master Hyper 212 Black Edition 42 CFM CPU Cooler	€47.04	—	—	—	In stock	€47.04	amazon.nl	Buy ×
Motherboard	MSI MAG B850 TOMAHAWK MAX WIFI ATX AM5 Motherboard	€253.99	—	Prime	—	In stock	€253.99	amazon.nl	Buy ×
Memory	Corsair Vengeance 128 GB (2 x 64 GB) DDR5-6400 CL42 Memory	€1629.00	—	FREE	—	In stock	€1629.00	ALTERNATE	Buy ×
+ Add Additional Memory									
Storage	Samsung 990 Pro 2 TB M.2-2280 PCIe 4.0 X4 NVME Solid State Drive	€159.00	—	Prime	—	In stock	€159.00	amazon.nl	Buy ×
+ Add Additional Storage									
Video Card	NVIDIA Founders Edition GeForce RTX 5090 32 GB Video Card	€3589.00	—	—	—	In stock	€3589.00	amazon.nl	Buy ×
+ Add Another Video Card									
Case	Montech XR ATX Mid Tower Case	€59.90	—	FREE	—		€59.90	MEGEKKO	Buy ×
Power Supply	Corsair SF1000 (2024) 1000 W 80+ Platinum Certified Fully Modular SFX Power Supply	€221.60	—	Prime	—	In stock	€221.60	amazon.nl	Buy ×
Operating System	Microsoft Windows 11 Home OEM - DVD 64-bit	€126.25	—	FREE	—		€126.25	PARADIGIT	Buy ×
Monitor	BenQ XL2586X+ 24.1" 1920 x 1080 600 Hz Monitor	€1199.00	—	FREE	—	In stock	€1199.00	ALTERNATE	Buy ×
+ Add Another Monitor									

Ik heb gekeken naar de betere dingen die er op dit moment te koop zijn en wat met elkaar goed kan samenwerken

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**