Template Week 3 – Hardware

Student number: 579675

Assignment 3.1: Examine your phone

What processor is in your phone?

    Samsung Exynos 1280 octa-core processor

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?

    6GB

How much storage does your phone have?

    128GB

What operating system is running on your phone?

    Android 16

Approximately how many applications do you have installed?

    200

Which application do you use the most?

    Instagram

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

    Aux

Assignment 3.2: Examine your laptop

What processor is in your laptop?

    Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz

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?

      16 GB

How much storage does your laptop have?

      ~1TB

Which operating system is running on your laptop?

      Windows 11

Approximately how many applications do you have installed?

      200 applications

Which application do you use the most?

      Zen (Browser)

Can your laptop be charged with what type of plug?

      Lenovo 135W square tip adapter

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

      HDMI

      Square tip adapter port

      USB-A (x2)

      Ethernet

      USB-C

      Aux

Assignment 3.3: Power to the laptop

What is the input voltage?

      135W

What is the output voltage?

How many watts can your power adapter deliver?

Is the input voltage AC or DC?

Is the output voltage AC or DC?

AC/DC what is that?

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.

I believe it will charge like it normally would, it would take all the power it needs to charge and leave the rest alone.

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 From parametric selection: • AMD Ryzen 7 9800X3D 4.7 GHz 8-Core Processor	€449.00	—	✓Prime	—	In stock 🔒	€449.00	amazon.nl	Buy	✕
CPU Cooler		Corsair NAUTILUS 360 RS ARGB 74.37 CFM Liquid CPU Cooler	€109.90	—	FREE	—	⚙	€109.90	MEGEKKO	Buy	✕
Motherboard		Gigabyte B850 GAMING X WIFI6E ATX AM5 Motherboard From parametric selection: • Gigabyte B850 GAMING X WIFI6E ATX AM5 Motherboard	€192.99	—	✓Prime	—	In stock 🔒	€192.99	amazon.nl	Buy	✕
Memory		Corsair Vengeance RGB 32 GB (2 x 16 GB) DDR5-6000 CL36 Memory	€499.00	—	FREE	—	⚙	€499.00	MEGEKKO	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 | ✕ |
| 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 | | MSI VENTUS 3X OC GeForce RTX 5070 Ti 16 GB Video Card | €874.09 | — | — | — | In stock ⚙ | €874.09 | amazon.nl | Buy | ✕ |

+ Add Another Video Card

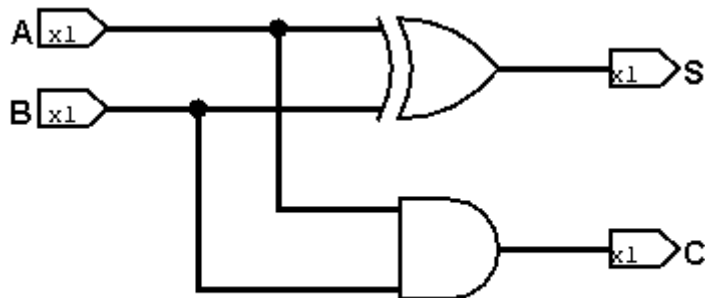| Case | | Corsair 3500X ARGB ATX Mid Tower Case | €128.97 | — | ✓Prime | — | In stock ⚙ | €128.97 | amazon.nl | Buy | ✕ |
Power Supply		MSI MAG A750GL PCIE5 750 W 80+ Gold Certified Fully Modular ATX Power Supply	€119.03	—	—	—	In stock ⚙	€119.03	amazon.nl	Buy	✕
Operating System		Microsoft Windows 11 Pro OEM - DVD 64-bit	€157.76	—	FREE	—	In stock ⚙	€157.76	amazon.nl	Buy	✕
Monitor		Asus TUF Gaming VG279QM 27.0" 1920 x 1080 280 Hz Monitor	€196.00	—	✓Prime	—	In stock ⚙	€196.00	amazon.nl	Buy	✕
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This pc build is quite beefy, but for good reason. One of the games I really enjoy playing right now is "Star Citizen", which is a quite heavy game to run that runs mostly on CPU, fort hat reason i've chosen a fairly expensive CPU. Also i enjoy running rdr2 and hogwarts legacy (which i would like to play with ray tracing) which are GPU heavy games, for that reason i have chosen a newer, more expensive graphics card.

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.
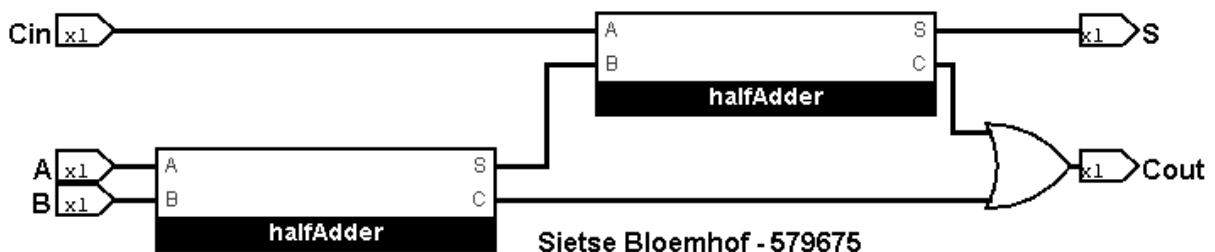
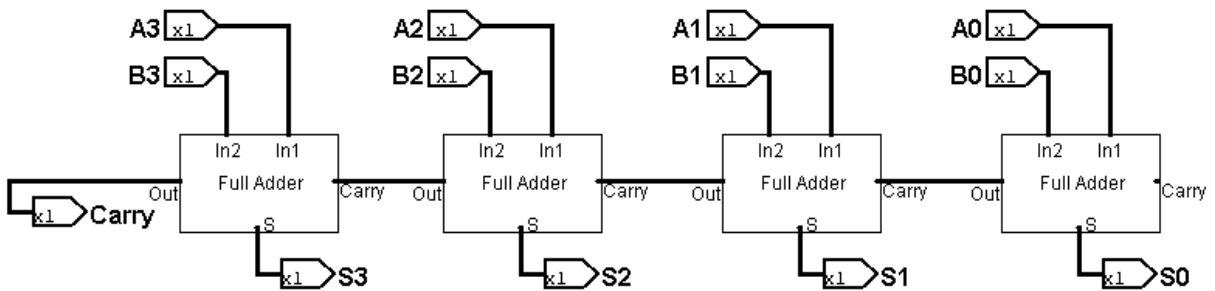Paste the three exported PNG pictures in here.

Half Adder:

Sietse Bloemhof - 579675

Full Adder:

Sietse Bloemhof - 579675

4-bit Adder:

Sietse Bloemhof - 579675

Ready? Save this file and export it as a pdf file with the name: **week3.pdf**