

Template Week 3 – Hardware

Student number: 499193

Assignment 3.1: Examine your phone

What processor is in your phone?

A16 bionic chip (6-core CPU met 2 performance- en 4 efficiency-cores)

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

64-bits ARM-based

How much RAM is in it?

6GB

How much storage does your phone have?

256GB

What operating system is running on your phone?

iOS 18.6.2

Approximately how many applications do you have installed?

20

Which application do you use the most?

YouTube

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?

AMD 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?

16GB

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?

10

Which application do you use the most?

Microsoft Edge

Can your laptop be charged with what type of plug?

Bijbehorende oplaadkabel

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

Oplaadport, 3x USB-A, 1x USB-C, HDMI, 3.5mm Audio port voor koptelefoon

Assignment 3.3: Power to the laptop

What is the input voltage?

100V-240V

What is the output voltage?

19V (2.37A x 45.0W)

How many watts can your power adapter deliver?

Is the input voltage AC or DC?

AC.

Is the output voltage AC or DC?

DC.

AC/DC what is that?

Alternating current / Direct current. In AC gaat de spanning heen en weer, bij DC gaat het enkel in één richting.

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

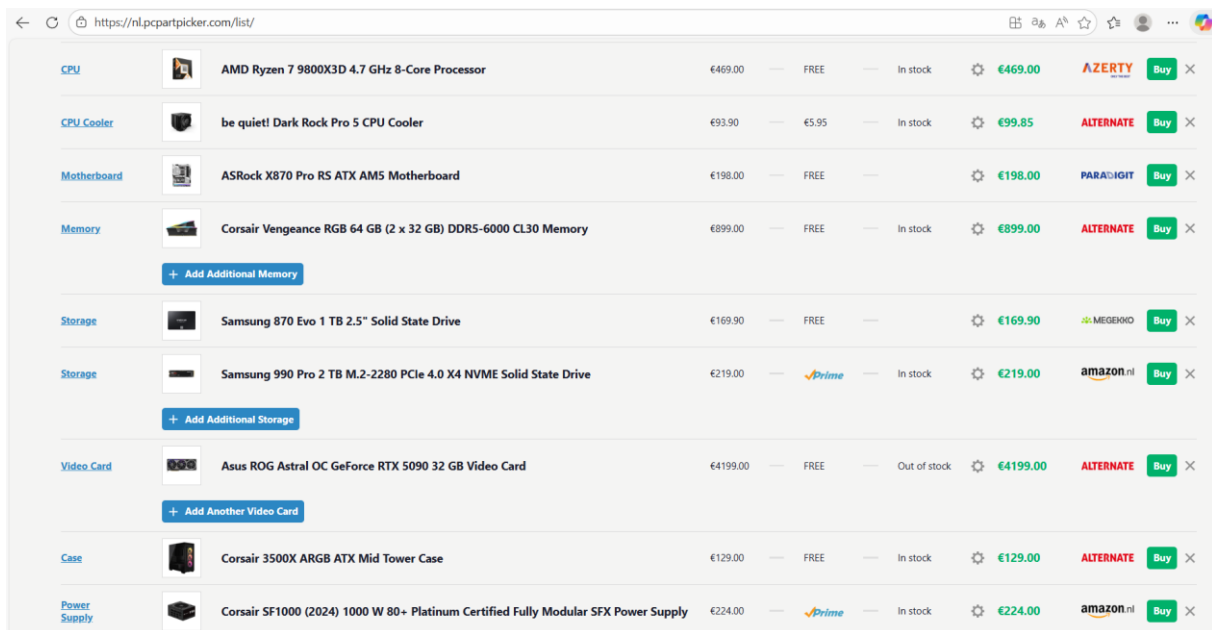
Ja, dat kan kortsluiting veroorzaken.

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.

Er gebeurt niks vreemds, omdat 50 watts de maximum wattage is wat de oplader aankan (en niet wat door de laptop gaat).

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:



Levert zo ongeveer de beste prestaties mogelijk en heeft (hopelijk) genoeg opslag. Helaas ontzettend duur (vooral met de huidige markt).

Momenteel heb ik thuis:

AMD Ryzen 7 5800x + be quiet! Dark Rock Pro 4 (Denk ik)

Nvidia RTX 3070

MSI X470 PLUS MAX

Kingston Fury Beast 32GB (2x16) DDR4 @ 3600MHz RAM

Corsair RM850W PSU

NVMe SSD 1TB

SSD 500 GB

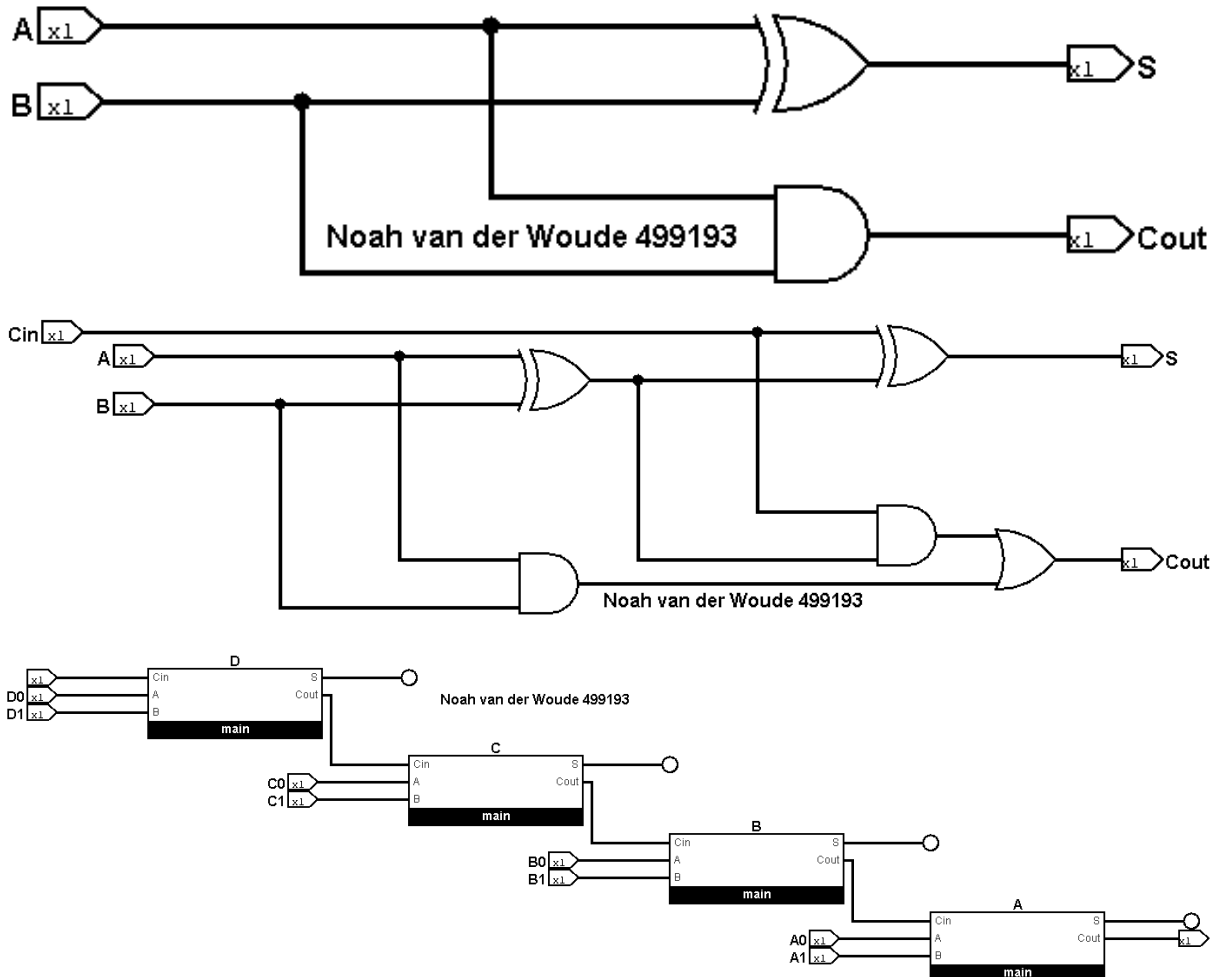
HDD 2TB

Behuizing waarvan ik de naam niet meer weet.

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](#)