

# Template Week 3 – Hardware

Student number: 588898

## Assignment 3.1: Examine your phone

What processor is in your phone?

Qualcomm Snapdragon 8 gen 2processor

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

CISC

How much RAM is in it?

8 GB

How much storage does your phone have?

256 GB

What operating system is running on your phone?

Android-versie: 16

Approximately how many applications do you have installed?

180 apps

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

### **Assignment 3.2: Examine your laptop**

What processor is in your laptop?

Intel core 7

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

CISC

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?

73 apps

Which application do you use the most?

IntelliJ

Can your laptop be charged with what type of plug?

Usb-c

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

### **Assignment 3.3: Power to the laptop**

What is the input voltage?

100-240V

What is the output voltage?

19V

How many watts can your power adapter deliver?

65watt

Is the input voltage AC or DC?

AC

Is the output voltage AC or DC?

DC

AC/DC what is that?

AC is wat uit de stopcontacten komt en AC stroomt alternatief

DC is voor apparaten zodat die een stabiel lager hoeveelheid stroom krijgen zodat het veiliger en beter voor het apparaat is.

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

Ja de batterij kan doorbranden maar ook de kabels die door je computer lopen.

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.

Niks belangrijks het enige wat er gebeurt is dat je de adapter niet volledig gebruikt. Er hoeft niet perse het maximaal gebruik van te maken.

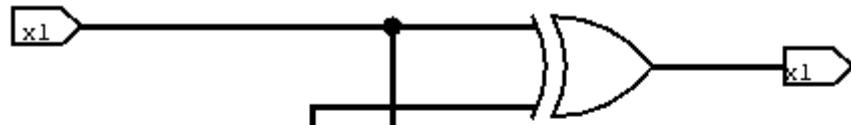
### Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

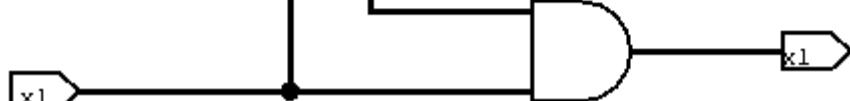
### Assignment 3.5: Adders

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.

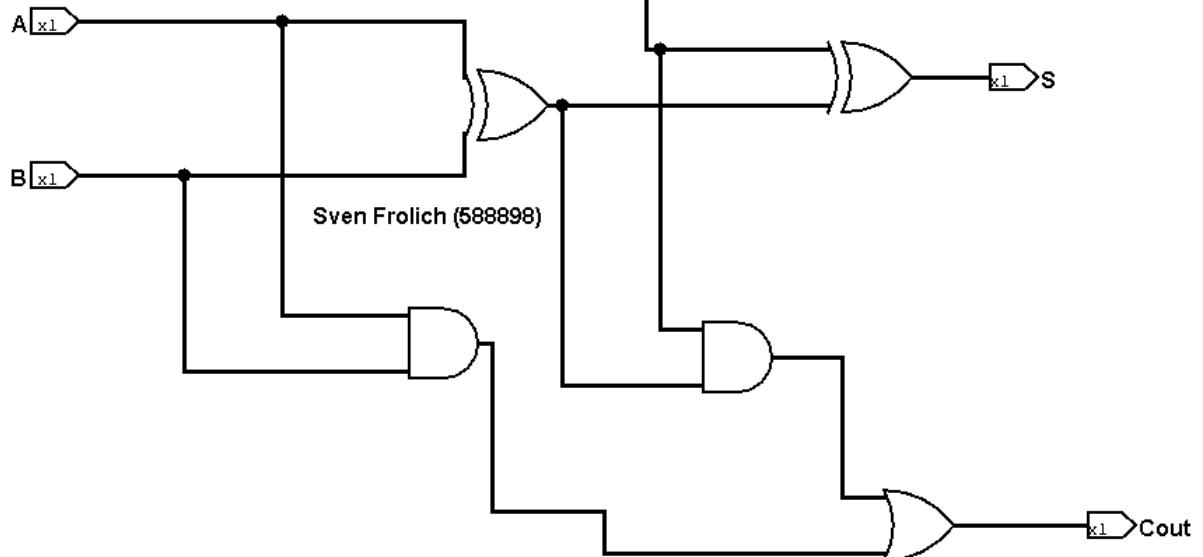
Paste the three exported PNG pictures in here.



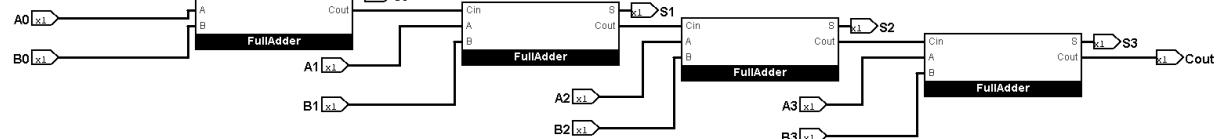
Sven Frolich (588898)



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