

Template Week 3 – Hardware

Student number: 522880

Assignment 3.1: Examine your phone

What processor is in your phone?

Octa-core (4x2.3 GHz Cortex-A53 & 4x1.8 GHz Cortex-A53)

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

ARM

How much RAM is in it?

4GB

How much storage does your phone have?

64GB

What operating system is running on your phone?

Android 10

Approximately how many applications do you have installed?

68 apps

Which application do you use the most?

Whatsapp, MySaxion, Chrome

Can your phone be charged with what type of plug?

microUSB

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

microUSB

Assignment 3.2: Examine your laptop

What processor is in your laptop?

13th Gen Intel Core i7-13700H

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

X86 ISA

How much RAM is in it?

32GB DDR5

How much storage does your laptop have?

954 GiB

Which operating system is running on your laptop?

Windows 11 Home

Approximately how many applications do you have installed?

62 that Windows can find

Which application do you use the most?

Firefox, IntelliJ (eeeww), Visual Studio Code

Can your laptop be charged with what type of plug?

A port which I believe is called a Surface Connect Port

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

2x USB-C, 1x USB-A, MicroSD card reader, 3.5 mil Audio Jack, Surface Connect Port (presumably power)

Assignment 3.3: Power to the laptop

What is the input voltage?

100V-240V

What is the output voltage?

15.0V

How many watts can your power adapter deliver?

120.0W

Is the input voltage AC or DC?

AC

Is the output voltage AC or DC?

DC

AC/DC what is that?

Alternating Current and Direct Current – AC switches polarity and DC keeps the same polarity

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

Yes

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.

It should just charge slower, because it delivers only 1/3rd of the power.

Assignment 3.4: Build your dream PC

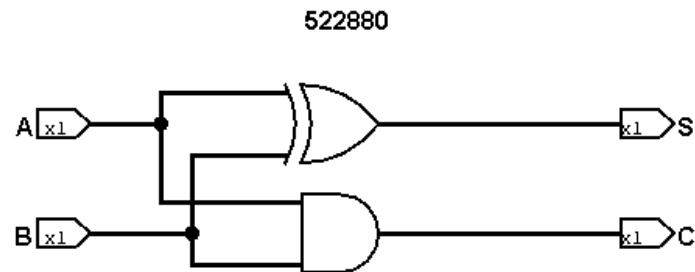
Screenshots PC configuration + motivation:

I already have my dream PC, as it is the one I didn't have to pay for

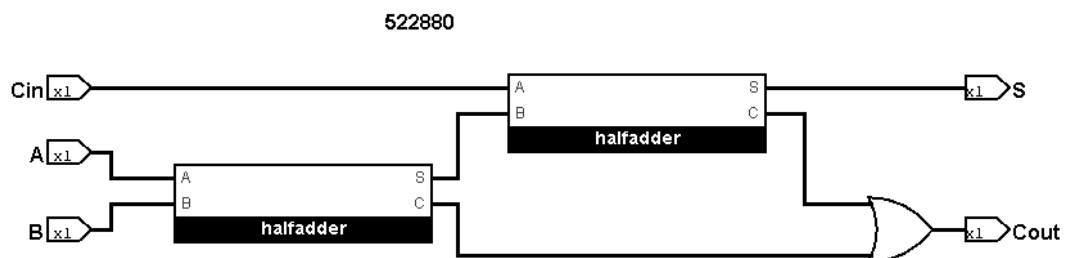
Bonus point assignment – week 3

Paste the three exported PNG pictures in here.

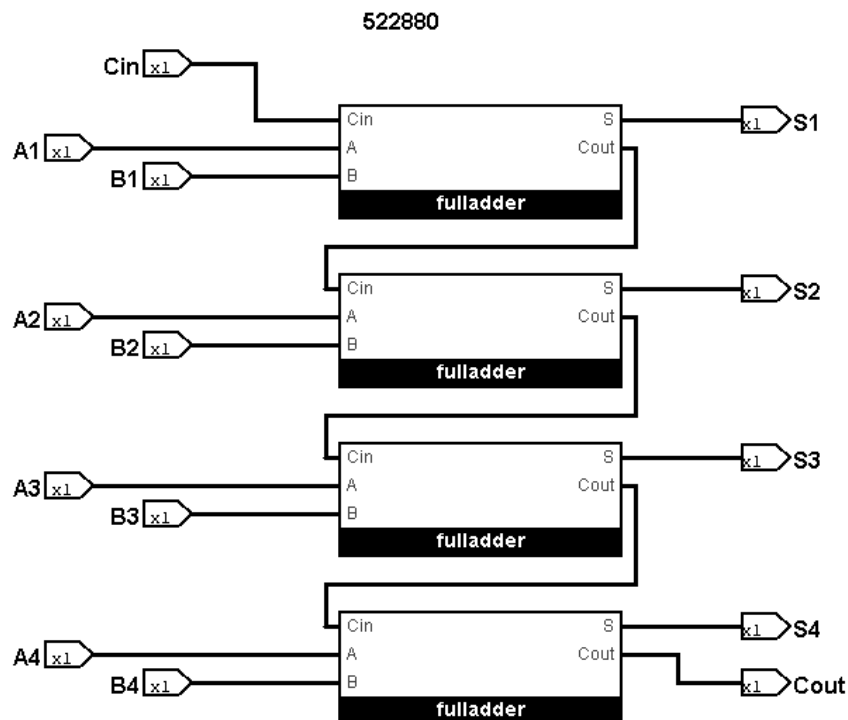
Half adder



Full adder



4bit adder



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