

Template Week 3 – Hardware

Student number:

545676

Assignment 3.1: Examine your phone

What processor is in your phone?

A16 Bionic

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?

6 Gb

How much storage does your phone have?

512 Gb

What operating system is running on your phone?

Ios

Approximately how many applications do you have installed?

25

Which application do you use the most?

Whatsapp

Can your phone be charged with what type of plug?

Usb c

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

Speaker, Charging port

Assignment 3.2: Examine your laptop

What processor is in your laptop?

Intel i7

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

X86

How much RAM is in it?

16 gb

How much storage does your laptop have?

1 Tb

Which operating system is running on your laptop?

Windows

Approximately how many applications do you have installed?

15

Which application do you use the most?

Opera

Can your laptop be charged with what type of plug?

Dc plug

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

Usb, Speaker, Charging port

Assignment 3.3: Power to the laptop

What is the input voltage?

Voltage that comes from external source like wall socket.

What is the output voltage?

Voltage that comes to laptop from power adapter.

Voltage that the power adapter delivers.

How many watts can your power adapter deliver?

230 watt

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

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











The laptop can be damaged.







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.

Delivered watts can be converted to the need of laptop.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

| | | | | | | | | | | |
|--------------------------|---|--|---------|---|-------|---|---------------------|-----------|-----|---|
| CPU |  | Intel Core i7-12700F 2.1 GHz 12-Core Processor <small>From parametric selection:</small> <ul style="list-style-type: none">Intel Core i7-12700F 2.1 GHz 12-Core Processor | €292.95 | — | FREE | — | €292.95 | AZERTY | Buy | × |
| CPU Cooler |  | Corsair iCUE H100x RGB ELITE 47.73 CFM Liquid CPU Cooler | — | — | — | — | No Prices Available | — | Buy | × |
| Motherboard |  | MSI PRO H610M-G DDR4 Micro ATX LGA1700 Motherboard | €74.09 | — | Prime | — | €74.09 | amazon.nl | Buy | × |
| Memory |  | Corsair Vengeance LPX 16 GB (2 x 8 GB) DDR4-3200 CL16 Memory | €29.99 | — | Prime | — | €29.99 | amazon.nl | Buy | × |
| + Add Additional Memory | | | | | | | | | | |
| Storage |  | Crucial P3 1 TB M.2-2280 PCIe 3.0 X4 NVME Solid State Drive | €57.95 | — | €3.95 | — | €61.90 | AZERTY | Buy | × |
| + Add Additional Storage | | | | | | | | | | |
| Video Card |  | Asus DUAL OC GeForce RTX 3050 6GB 6 GB Video Card | €195.00 | — | FREE | — | €195.00 | AZERTY | Buy | × |
| + Add Another Video Card | | | | | | | | | | |
| Case |  | MSI MAG FORGE 100R ATX Mid Tower Case | €69.95 | — | FREE | — | €69.95 | MEGEXHO | Buy | × |
| Power Supply |  | Corsair VS400 400 W 80+ Certified ATX Power Supply | — | — | — | — | No Prices Available | — | Buy | × |
| Operating System |  | Microsoft Windows 11 Home Retail - USB 64-bit | €132.95 | — | FREE | — | €132.95 | MEGEXHO | Buy | × |
| Sound Card |  | Asus STRIX SOAR 24-bit 192 kHz Sound Card | €44.95 | — | FREE | — | €44.95 | AZERTY | Buy | × |
| + Add Another Sound Card | | | | | | | | | | |

| | | | | | | | | | | |
|-------------------------|---|---|---------|---|-------|---|----|---------|-------------|-------|
| Monitor |  | MSI G272QPF E2 27.0" 2560 x 1440 180 Hz Monitor | €165.00 | — | FREE | — | ⚙️ | €165.00 | bol. | Buy X |
| + Add Another Monitor | | | | | | | | | | |
| Keyboard |  | HP HyperX Alloy Core RGB Wired Gaming Keyboard | €33.00 | — | Prime | — | ⚙️ | €33.00 | amazon.nl | Buy X |
| + Add Another Keyboard | | | | | | | | | | |
| Mouse |  | Cooler Master MM720 Glossy Wired Optical Mouse | €14.90 | — | Prime | — | ⚙️ | €14.90 | amazon.nl | Buy X |
| + Add Another Mouse | | | | | | | | | | |
| Headphones |  | Sony MDRE9LP/GRAY Earbud | €15.14 | — | €3.95 | — | ⚙️ | €19.09 | AZERTY | Buy X |
| + Add Headphones | | | | | | | | | | |
| Speakers |  | Trust GXT 606 JAVV 6 W Speakers | €29.99 | — | Prime | — | ⚙️ | €29.99 | amazon.nl | Buy X |
| + Add Computer Speakers | | | | | | | | | | |
| Webcam |  | Logitech C270 Webcam | €23.00 | — | — | — | ⚙️ | €23.00 | amazon.nl | Buy X |
| + Add Another Webcam | | | | | | | | | | |

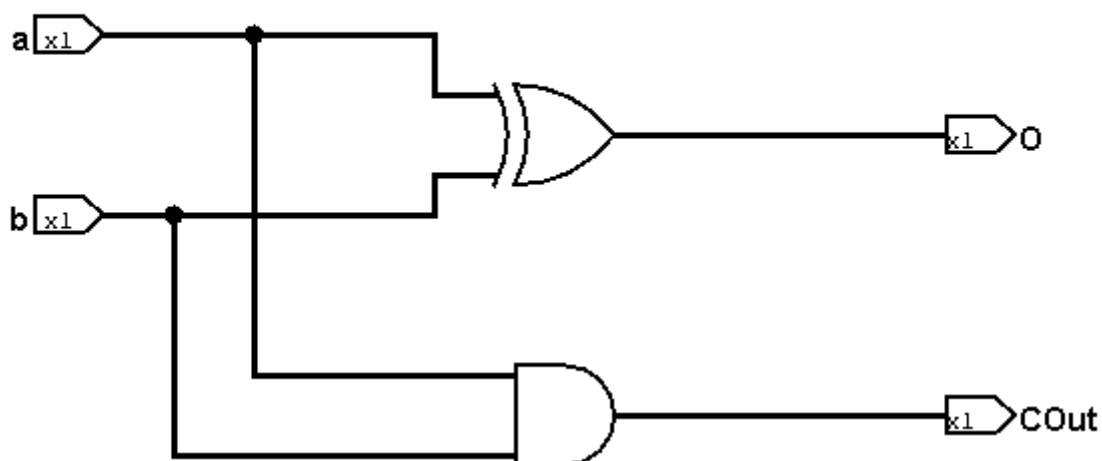
The setup is for people who want good performance.

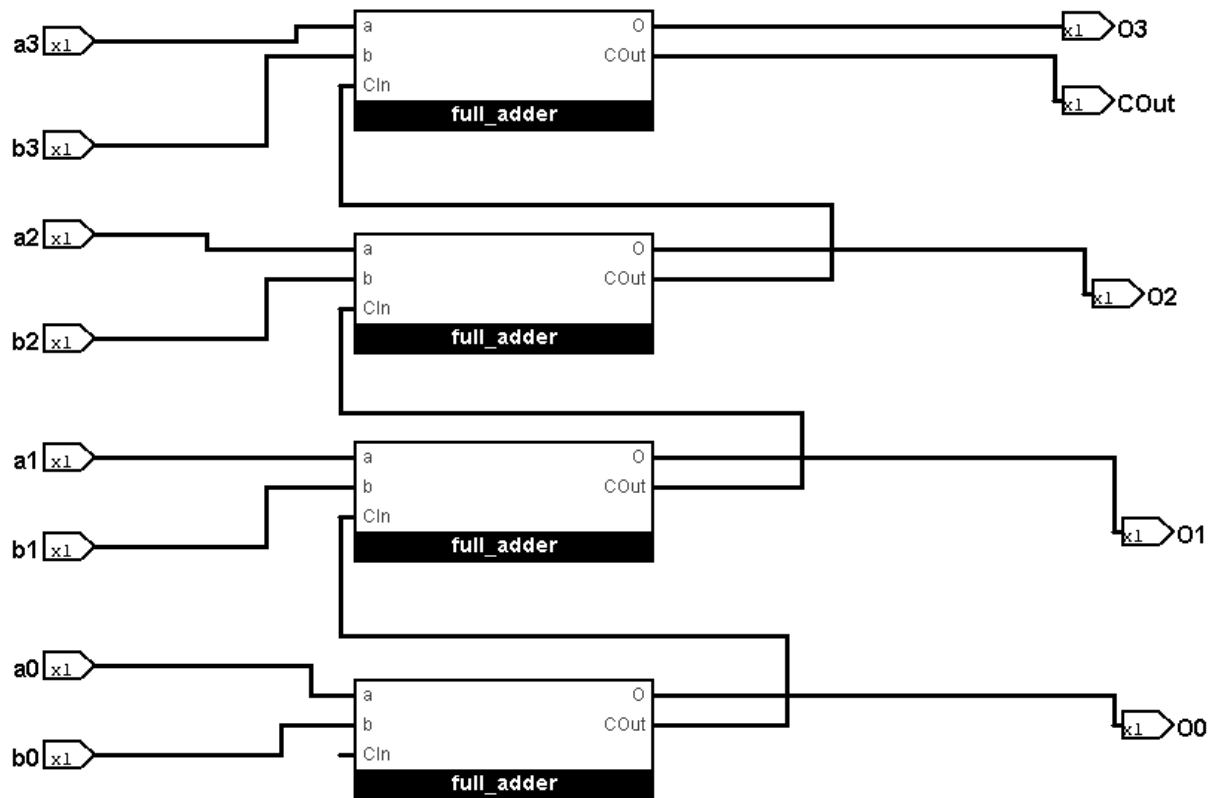
Bonus point assignment – week 3

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.

545676 Mehmet Alper Tas





Ready? Save this file and export it as a pdf file with the name: [week3.pdf](#)